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NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING
NORTH CAROLINA DEPARTMENT OF AGRICULTURE
AND
UNITED STATES DEPARTMENT OF AGRICULTURE
CO-OPERATING

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AGRICULTURAL EXTENSION SERVICE

B. W. KILGORE
DIRECTOR

RALEIGH AND WEST RALEIGH

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THIRD ANNUAL REPORT

YEAR ENDED JUNE 30, 1917

NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING
NORTH CAROLINA DEPARTMENT OF AGRICULTURE
AND
UNITED STATES DEPARTMENT OF AGRICULTURE
CO-OPERATING

AGRICULTURAL EXTENSION SERVICE

B. W. KILGORE
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RALEIGH AND WEST RALEIGH

THIRD ANNUAL REPORT

YEAR ENDED JUNE 30, 1917

LETTER OF SUBMITTAL

North Carolina Agricultural Extension Service,
Office of the Director,

Raleigh, N. C., January 1, 1918.

To His Excellency, T. W. Bickett,
Governor of North Carolina.

Sir:—I have the honor to submit herewith report of the operations of the North Carolina Agricultural Extension Service, conducted jointly by the North Carolina State College of Agriculture and Engineering and the North Carolina Department of Agriculture, in coöperation with the Federal Department of Agriculture, for the year ended June 30, 1917. This work is under the immediate direction of the "Joint Committee for Agricultural Work" provided for in chapter 68 of the Public Laws of 1913, and the report is made in accordance with the requirements of the act of Congress approved May 8, 1914, and known as the Smith-Lever Act.

Very respectfully,

B. W. Kilgore,
Director.

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*O. L. Clark—Clarkton	P. S. Boyd—Mooresville
Everett Thompson—Elizabeth City	W. E. Daniel—Weldon
R. H. Ricks—Rocky Mount	*W. H. Ragan—High Point
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R. W. Scott—Haw River	A. Cannon—Horse Shoe

STAFF OF THE AGRICULTURAL EXTENSION SERVICE AND EXPERIMENT STATION

Administration

B. W. Kilgore—Director of Extension Service and Experiment Station
C. B. Williams—Vice-Director Experiment Station
R. W. Collett—Assistant Director, Branch Stations
S. G. Rubinow—Assistant to Director
F. H. Jeter—Agricultural Editor
A. F. Bowen—Bursar
Miss Mary S. Birdsong—Secretary to Director
Miss Sadie D. Jones—Bursar

Agronomy

C. B. Williams—Chief in Agronomy	[2]R. B. Hardison—Assistant in Soil Survey
J. K. Plummer—Soil Chemist	S. O. Perkins—Assistant in Soil Survey
W. F. Pate—Agronomist—Soils	L. L. Brinkley—Assistant in Soil Survey
E. C. Blair—Assistant Agronomist—Soils	[2]E. S. Vanetta—Assistant in Soil Survey
J. O. Ware—Assistant Agronomist—Soils	S. F. Davidson—Assistant in Soil Survey
R. Y. Winters—Plant Breeding	[2]E. H. Mathewson—Tobacco Expert
C. C. Logan—Extension Agronomist	A. R. Russell—Asst. in Field Experiments
[1]V. R. Herman—Assistant in Plant Breeding	

Chemistry

W. A. Withers—Chemist	J. Q. Jackson—Assistant Chemist
F. E. Carruth—Assistant Chemist	E. S. Dewar—Assistant Chemist
J. M. Pickel—Feed Chemist	T. M. Hill—Assistant Chemist
W. G. Haywood—Fertilizer Chemist	B. T. Horsfield—Assistant Chemist

Entomology

Franklin Sherman, Jr.—Chief in Entomology	J. E. Eckert—Assistant Entomologist
Z. P. Metcalf—Entomologist	[6]C. L. Sams—Bee-keeping
R. W. Leiby—Assistant Entomologist	

Horticulture

W. N. Hutt—Chief in Horticulture	C. D. Matthews—Assistant Horticulturist
J. P. Pillsbury—Horticulturist	J. P. Griffith—Assistant Horticulturist
L. R. Detjen—Assistant Horticulturist	B. Szymoniak,
R. G. Hill—Assistant Horticulturist	Fruit and Truck Crops Extension

Animal Industry

Dan T. Gray—Chief in Animal Industry	[3]F. R. Farnham,
R. S. Curtis—Associate in Animal Industry	Assistant in Dairy Farming (Cheese)
W. H. Eaton—Dairy Experimenter	[3]R. H. Mason—Assistant in Dairy Farming
B. F. Kaupp,	[3]D. R. Noland,
Poultry Investigator and Pathologist	Assistant in Dairy Farming (Cheese)
J. E. Ivey—Assistant in Poultry Investigations	[3]F. T. Peden—Assistant in Beef Cattle
[3]A. J. Reed—Dairy Farming	[3]A. L. Jerdan—Assistant in Beef Cattle
[3]J. E. Moses—Pig Club Agent	[3]L. I. Case—Assistant in Beef Cattle
[3]A. G. Oliver—Poultry Club Agent	Earl Hostetler,
Stanley Combes—Assistant in Dairy Farming	Assistant in Beef Cattle and Swine
[3]J. A. Arey—Assistant in Dairy Farming	Dan M. McCarty—Asst. in Animal Nutrition

Plant Pathology

F. A. WOLF.....Plant Pathologist
R. O. CROMWELL.....Assistant—Plant Diseases
E. E. STANFORD.....Assistant—Bacteriology
A. C. FOSTER.....Assistant—Plant Diseases

Drainage

[4]H. M. LYNDE.....Senior Drainage Engineer
F. R. BAKER.....Assistant Drainage Engineer

Markets and Rural Organization

WILLIAM R. CAMP.....Chief, Division of Markets
O. J. MCCONNELL.....Assistant—Cotton Grading and Marketing
J. A. LIVINGSTON.....Assistant Superintendent of Credit Unions
BOLLING HALL.....Assistant—Marketing Fruits and Vegetables

Farm Management

[5]J. M. JOHNSON.....Farm Management

Branch Stations

F. T. MEACHAM.....Assistant Director Iredell Branch Station, Statesville
R. G. HILL.....Assistant Director Pender Branch Station, Willard
C. E. CLARK.....Assistant Director Edgecombe Branch Station, Rocky Mount
E. G. MOSS.....Assistant Director Granville Branch Station, Oxford
S. C. CLAPP.....Assistant Director Buncombe Branch Station, Swannanoa
H. BOCKER.....Assistant Director Blackland Branch Station, Wenona

Farm Demonstration Work

C. R. HUDSON.....State Agent
E. S. MILLSAPS.....District Agent, Western District
T. D. MCLEAN.....District Agent, Central District
R. W. FREEMAN.....District Agent, Southeastern District
J. M. GRAY.....District Agent, Mountain District
O. F. MCCRARY.....District Agent, Northeastern District

County Agents

Alamance.....J. P. KERR, Haw River
Alexander.....J. W. HENDRICKS, Taylorsville
Anson.....J. W. CAMERON, Polkton
Avery.....R. L. CLUTE, Newland
Beaufort.....H. H. LAWLEY, Washington
Bertie.....E. R. RANEY, Windsor
Bladen.....R. K. CRAVEN, Clarkton
Brunswick.....W. B. PACE, Shallotte
Buncombe.....E. D. WEAVER, Weaverville
Burke.....E. L. PERKINS, Morganton
Cabarrus.....R. D. GOODMAN, Concord
Caldwell.....G. MARK GOFORTH, JR., Lenoir
Carteret.....C. C. BEARDEN, Beaufort
Caswell.....J. C. HUNTER, Yanceyville
Catawba.....H. H. B. MASK, Newton
Chatham.....R. L. EDWARDS, Ore Hill
Cherokee.....J. H. HAMPTON, Murphy
Chowan.....J. S. MCBEE, Edenton
Clay.....EWING MILLSAPS, Hayesville
Cleveland.....R. M. GIDNEY, Shelby
Columbus.....W. R. TINGLE, Whiteville
Cumberland.....C. W. CLARK, Fayetteville
Currituck.....J. E. CHANDLER, Currituck
Dare.....C. M. BRICKHOUSE, Manteo
Davidson.....W. G. YEAGER, Lexington
Duplin.....F. N. MCDOWELL, Kenansville
Durham.....M. R. MCGIRT, Durham
Edgecombe.....ZENO MOORE, Whitakers
Forsyth.....BRUCE ANDERSON, Winston-Salem
Franklin.....C. H. STANTON, Louisburg
Gaston.....J. B. STEELE, Gastonia
Graham.....R. W. GRAY, Robbinsville
Granville.....J. A. MORRIS, Oxford
Greene.....D. J. MIDDLETON, Snow Hill
Guilford.....E. H. ANDERSON, Greensboro
Halifax.....N. B. STEVENS, Enfield
Harnett.....GEORGE A. COLE, Lillington
Haywood.....W. H. FERGUSON, Waynesville
Henderson.....FRANK FLEMING, Hendersonville
Hertford.....E. W. GAITHER, Winton
Hoke.....R. N. LEOPAR, Raeford
Hyde.....JESSE MURRAY, Swan Quarter
Iredell.....G. E. DULL, Statesville
Jackson.....J. M. MCCLUNG, Sylva
Johnston.....A. M. JOHNSON, Smithfield
Jones.....N. K. ROWELL, Trenton
Lee.....R. R. MCIVER, Sanford
Lenoir.....W. T. KYSER, Kinston
Lincoln.....W. L. SMARR, Lincolnton
McDowell.....J. L. THURMAN, Marion
Macon.....W. E. GROSS, Franklin
Martin.....J. L. HOLLIDAY, Williamston
Mitchell.....J. W. LINDLEY, Bakersville
Montgomery.....C. S. MCLEOD, Troy
Moore (Sandhills).....CLYDE L. DAVIS, Aberdeen
Moore (N.).....P. T. LARAHOW, Pinehurst
Nash.....G. D. BURROUGHS, Nashville
New Hanover.....J. P. HERRING, Wilmington
Northampton.....W. M. WALL, Jackson
Onslow.....GROVER DICKEY, Jacksonville
Orange.....H. L. CHANCE, Hillsboro
Pamlico.....W. ROY GRAY, Bayboro
Pasquotank.....G. W. FALLS, Elizabeth City
Pender.....R. T. MELVIN, Burgaw
Perquimans.....FRAZIER ROGERS, Hertford
Person.....W. C. WARREN, Hurdle Mills
Pitt.....B. T. FERGUSON, Greenville
Randolph.....D. S. COLTRANE, Asheboro
Richmond.....W. J. ISBELL, Rockingham
Rowan.....S. S. STABLER, Salisbury
Rockingham.....F. S. WALKER, Reidsville
Rutherford.....C. C. PROFFITT, Rutherfordton
Sampson.....H. L. BOYD, Clinton
Stanly.....S. J. LENTZ, Norwood
Stokes.....J. H. SPEAS, Danbury
Surry.....J. W. JOHNSON, Mount Airy
Transylvania.....R. W. LAWRENCE, Brevard
Tyrrell.....W. M. LAUGHINGHOUSE, Columbia
Union.....T. J. W. BROOM, Monroe
Vance.....J. A. GOODWIN, Henderson
Wake.....W. H. CHAMBLEE, JR., Wakefield
Warren.....F. B. NEWELL, Warrenton
Wayne.....V. G. MARTIN, Goldsboro
Wilkes.....A. G. HENDREN, Straw
Wilson.....W. J. BROCKINGTON, Wilson
Yadkin.....M. W. MACKIE, Yadkinville
Yancey.....F. E. PATTON, Burnsville

Negro Local Agents

Anson	R. J. BEVERLY, Wadesboro
Alamance, Guilford, and Rockingham	H. E. WEBB, Greensboro
Bladen and Columbus	J. W. MITCHELL, Clarkton
Duplin and part of Wayne	R. J. JOHNSON, Warsaw
Edgecombe, Pitt, and Martin	OLIVER CARTER, Parmele
Forsyth, Davie, and Yadkin	E. C. LACKEY, Winston-Salem
Gates	C. S. MITCHELL, Gatesville
Granville, Warren, and Vance	F. D. WHARTON, Henderson
Hertford	W. D. BROWN, Winton
Halifax and northern parts of Nash and Edgecombe	JACOB DUPREE, Bricks
New Hanover, Pender, and Brunswick	DENNIS DUPREE, Wilmington
Rowan	THOMAS B. PATTERSON, Salisbury
Scotland and Robeson	R. C. WARD, Laurinburg
Sampson	G. W. HERRING, Clinton

Boys' Agricultural Clubs

T. W. BROWNE	State Agent and Rural Supervisor
A. K. ROBERTSON	Corn Club Agent
A. G. OLIVER	Poultry Club Agent
J. E. MOSES	Pig Club Agent
W. KERR SCOTT	Assistant Club Agent

Home Demonstration Work

MRS. JANE S. MCKIMMON	State Agent
MISS MINNIE L. JAMISON	Assistant in Home Demonstration Work
MISS LAURA M. WINGFIELD	District Agent, Central District
MISS LIZZIE J. RODDICK	District Agent, Eastern District
MRS. J. H. HENLEY	District Agent, Unorganized

County Agents

Alamance	MISS IRMA K. COBLE	Graham
Anson	MRS. ROSALIND REDFEARN	Wadesboro
Avery	MISS BELLE WEST	Crossnore
Beaufort	MISS GLENNORA ROMINGER	Washington
Bertie	MRS. W. F. EARLEY	Aulander
Bladen	MISS M. LOUISE MILLS	Bladenboro
Buncombe	MISS ALLIE M. RYMER	Asheville
Catawba	MISS MARY J. ROWE	Newton
Cherokee	MISS LENNIE V. HATCHETT	Murphy, R. 2
Chowan	MISS CIRCE COBLE	Edenton
Columbus	MISS LUCILE CLARK	Whiteville
Craven	MISS ESTHER GRAY	New Bern
Cumberland	MISS ELIZABETH GAINEY	Fayetteville, R. 7
Davidson	MISS EUNICE E. PENNY	Lexington
Duplin	MISS LUCY M. COBB	Wallace
Durham	MISS HELEN K. SIMMONS	Durham
Edgecombe	MISS ELIZABETH MCCARGO	Tarboro
Forsyth	MISS MARGARET MCLUCAS	Winston-Salem
Franklin	MISS PAULINE SMITH	Louisburg
Gaston	MISS NELL PICKENS	Gastonia
Granville	MRS. A. L. CAPEHART	Oxford
Greene	MISS ROSA L. HOOTEN	Snow Hill
Guilford	MISS OLA STEPHENSON	Greensboro
Halifax	MRS. CORNELIA C. MORRIS	Roanoke Rapids
Harnett	MISS RACHEL KATHERINE MARTIN	Lillington
Iredell	MISS H. CELESTE HENKEL	Statesville
Lee	MISS GERTRUDE V. LITTLE	Sanford
Lenoir	MISS M. ADNA EDWARDS	Kinston
Lincoln	MRS. FLORENCE R. WINN	Lincolnton
Macon	MISS IRMA SYKES	Franklin
Mecklenburg	MISS ANNIE L. RANKIN	Churchill Apartments, Charlotte
Montgomery	MRS. OTELIA HARRIS	Candor
Moore	MISS GRACE A. BRADFORD	Carthage
Nash	MISS ALLIE M. STRIBLING	Nashville
New Hanover	MRS. J. C. PRETLOW	Wilmington
Northampton	MRS. DAVID H. BROWN	George
Onslow	MISS AVA MYATT	Jacksonville
Pasquotank	MISS MARCIE P. ALBERTSON	Elizabeth City
Pender	MISS EVA LOGAN	Burgaw
Perquimans	MISS HELEN W. GAITHER	Hertford
Person	MISS LILA MELVIN	Roxboro
Pitt	MISS LOU ELLA AVRA	Greenville
Richmond	MRS. JOHN SANDY COVINGTON	Rockingham
Robeson	MISS LULU M. CASSIDEY	Lumberton
Rockingham	MISS MAZIE KIRKPATRICK	Wentworth
Rowan	MISS LIDA M. OLIVE	Salisbury
Sampson	MRS. W. B. LAMB	Garland, R. F. D.

County Agents—continued

Stanly	MRS. L. L. HARGRAVE	Norwood
Union	MRS. B. H. GRIFFIN	Marshville
Vance	MRS. J. K. PLUMMER	Middleburg
Wake	MRS. CHLOE P. BLALOCK	Raleigh
Warren	MRS. MAY CONNELL	Warren Plains
Washington	MISS ALICE E. MCQUEEN	Plymouth
Wayne	MRS. ESTELLE T. SMITH	Goldsboro
Wilkes	MRS. BLANCHE MILLER	North Wilkesboro
Wilson	MISS WILLIE L. WHITE	Wilson

City Agents

Asheville	MISS ETHEL MCDONALD	*Raleigh*	MRS. M. M. DAVIS
Charlotte	MISS JANE GRAY	*Winston-Salem*	MISS JANE B. GRAY
New Bern	MISS EVA LENORA KEELER	*Wilmington*	MISS MARY C. BENNETTE

The members marked with * are members of the Joint Committee for Agricultural Work and the Extension Service and Experiment Station are under their direction.

[1]In coöperation with the U. S. Department of Agriculture, Bureau of Plant Industry.

[2]In coöperation with the U. S. Department of Agriculture, Bureau of Soils.

[3]In coöperation with the U. S. Department of Agriculture, Bureau of Animal Industry.

[4]In coöperation with the U. S. Department of Agriculture, Office of Public Roads and Rural Engineering.

[5]In coöperation with the U. S. Department of Agriculture, Office of Farm Management.

[6]In coöperation with the U. S. Department of Agriculture, Bureau of Entomology.

THIRD ANNUAL REPORT

OF THE

NORTH CAROLINA AGRICULTURAL EXTENSION SERVICE

FOR THE YEAR ENDED JUNE 30, 1917

BEING THE 11TH YEAR OF EXTENSION WORK IN THE STATE

B. W. KILGORE, DIRECTOR
F. H. JETER, AGRICULTURAL EDITOR

The Coöperative Extension Work in Agriculture and Home Economics in the State is conducted jointly by the North Carolina State College of Agriculture and Engineering and the North Carolina Department of Agriculture in coöperation with the United States Department of Agriculture, the work being under the immediate direction, on the part of the State, of the Joint Committee for Agricultural Work (chapter 68, Public Laws 1913, and chapter 223, Public Laws of 1917).

To give comprehensive report of the activities of the workers in the Agricultural Extension Service during the past year would be to cover practically every phase of agricultural progress in the State of North Carolina during the period under consideration. So vital have these workers become to the farming interest in the time the Extension Service has been organized in North Carolina, so energetic and faithful have they been in the performance of their duties, and so cordial has been the coöperation of those whom they have sought to aid and assist, that it seems now as if the work is firmly established as a permanent part of the future agricultural activity of the State. This fact has been brought to the realization of the public in a very forceful manner, as can be seen by the observations of persons not connected with the Service in any way, but who have kept up with the progress of the work and have advocated its advantages in the respective communities in which they have been interested.

When the part that agriculture must play in the successful conduct of the great war in which the democracies of the world are now engaged with imperialism was fully realized, those in executive positions began to call on the farmer to produce food and feed for man and beast, lest the lack of these cause the defeat of the noble purposes to which the democracy of the United States had set itself. In turn, the farmers of the country began to call on the established agricultural institutions for advice and assistance in the production of these food and feed stuffs. In no State of the Union was this truer than in the State of North Carolina; and in no other State was the response more satisfactory than in

North Carolina. As an evidence of this, approximately fifteen thousand boys and girls joined some one of the clubs organized by the Extension Service and became a small army of food producers and conservers; the adult farmers rallied to the call for increased food production, as sent out by the Federal Government, the Councils of Defense, the Food Conservation Commission, and the Agricultural Extension Service; and the women of the State set themselves to the task of saving each ounce of food possible. All of the field representatives of the Service, in addition to their regular duties, took up the burden of emergency work; and, as a result of the whole, North Carolina produced and conserved more food during the last year than in any previous year in her history. The largest corn crop that the State has ever produced was made. If an inventory could be taken it would be found that there is considerably more feed and food from other crops than any previous year. Farmers and townspeople have given more attention to gardens, and more farmers and townspeople have had gardens than heretofore; and while prevailing prices have had an effect in this movement, still the patriotism of the farmer and citizens generally, and the field work of the Extension Service, must be considered as two factors entering largely into this condition. No idle boast is made when this is said, as official records show it to be true. This increase was not due to the fact that more acres were cultivated, for on account of labor conditions this was next to impossible; it was due to the fact, however, that better methods of farming practices were adopted, as exemplified in the case of corn, of which the average acre-yield of the State last year was around twenty bushels. This year the Division of Farm Demonstration reports that forty-eight bushels was the average yield reported by their coöperators. Last year the girls and women enrolled by the Division of Home Demonstration filled a total of 680,551 containers with food products, with a total net profit of $88,383. In 1917 they filled a total of 3,289,415 containers, while the girls and women outside of the organization, yet who were instructed by Extension workers, added to this amount 5,448,847, making a total of 8,778,262 containers for the fifty-eight organized counties, with a total net profit of $1,634,519, figured from a conservative estimate of the market value of these products, which were canned, dried, and brined.

It was found necessary during the year to greatly expand the work to take care of the numerous demands being made by interested farmers, and others, over the State, and to take care of which expansion an emergency appropriation by Congress was made.

It was found necessary to attach an additional worker to the administration office to assist the Director in some of the details of the Extension work, and Mr. S. G. Rubinow was placed in this position as assistant to the Director, and to have, in addition, as his main line of work, the study of and assistance in the development and conduct of the fairs of the State.

The Farm Demonstration work was greatly enlarged also, and of the one hundred counties in the State, there are only eight counties now without agents. Instead of the three districts into which the State was formerly divided, the territory has been split up again and two new districts made. The Mountain District, under the supervision of Mr. J. M. Gray, District Agent, was formed with headquarters at Asheville; and at Washington, N. C., was established the headquarters for the Tidewater District, known now as the Northeastern District, and comprising counties in that section. Mr. O. F. McCrary was made District Agent in charge of that section.

In the Home Demonstration work it was found also that expansion was necessary. Heretofore the entire work has been directed from the office at Raleigh. The State now has been divided into three districts with the Eastern District under the direction of Miss Lizzie J. Roddick, with headquarters at Wilson; the Central District with headquarters at the State Normal and Industrial College, at Greensboro, in charge of Miss Laura M. Wingfield; the Western District, which up until this time has no regular agent; and Mrs. J. H. Henley has charge of the unorganized territory and spends her time in work in counties without agents.

Mr. W. Kerr Scott was added as Assistant Club Agent to do work in the formation of grain clubs. These additions were all made in accordance with the emergency appropriation of Congress.

CHANGES IN STAFF

A number of changes in the staff have occurred during the year, occasioned by a number of the workers leaving for active service in the Army and Navy of our country, and others going to the Federal Department of Agriculture, or accepting positions elsewhere.

Mr. R. G. Hill, Assistant Horticulturist, Mr. B. Syzmoniak, Demonstrator in Fruit and Truck Crops, and Miss Grace Schaeffer, Assistant in Home Demonstration, resigned to take up work with the United States Department of Agriculture; Mr. George H. Rea, Bee-keeping Specialist, resigned to take up similar work with the Pennsylvania State Department of Agriculture; Dr. J. I. Handley resigned to accept work with the Michigan Agricultural Experiment Station; Mr. S. C. Clapp was transferred from the Division of Entomology to Assistant Director in Charge of the Mountain Branch Station, Swannanoa, and Mr. J. E. Eckert was employed to fill his place in Entomology; Mr. B. P. Folk, Pig Club Agent, resigned to engage in farming on his own account, and Mr. J. E. Moses succeeded him; Mr. E. E. Culbreth, Assistant Superintendent of Credit Unions, resigned to engage in commercial work; Mr. F. N. McDowell, Assistant in Soil Survey, was transferred to County Agent work, and Mr. George Evans was added to the staff as Specialist in

Sheep Production, the expenses of the undertaking being provided for jointly from funds of the State and Federal Departments of Agriculture.

The following resigned to enter the Army:

Mr. A. L. Jerdan, Assistant in Beef Cattle,
Mr. L. I. Case, Assistant in Beef Cattle,
Mr. T. M. Hill, Assistant Chemist,
Mr. F. C. Wiggins, Assistant Chemist,
Mr. F. R. Baker, Assistant Drainage Engineer.

COÖPERATION WITH OTHER INSTITUTIONS AND AGENCIES

The Extension Service during the past year has been very fortunate in the coöperation and good feeling extended it by all the institutions and agencies of agricultural work in the State. In addition to its agreements and understandings with the Federal Department of Agriculture and its various bureaus, pleasant working and coöperative relations exist with the State Normal and Industrial College, the State Department of Education, the Farmers' Union, Negro Agricultural and Technical College, the different counties of the State, the railroads, boards of trade, chambers of commerce, banks, and various other commercial and farmers' organizations. Especially friendly has been the relations with the press of the State. This important educational agency has opened up its columns to the information furnished by the Service. Especial mention might be made of the action of the *News and Observer,* of Raleigh, which issued an agricultural edition giving the aims and purposes of the different divisions of the Agricultural Extension Service and Experiment Station during this war-time period. All of the papers of the State have been liberal in opening their columns to the appeals and information sent out, and the work of the year could not have been as successful as it has without their loyal aid.

COÖPERATION OF RAILWAYS

Following their example of last year, practically all of the railways of the State continued to furnish transportation for a number of our workers under the permissive act of the General Assembly, authorizing transportation companies to furnish transportation if they so desired, to Agricultural Extension and Demonstration workers when actually engaged in the performance of this character of work in the field requiring transportation. The aid thus given by the railroads has again been of great value and has allowed the work to be greatly extended over the State.

Below is given a brief summary of the activities of the several divisions.

FARM DEMONSTRATION WORK

At the present time only eight of the one hundred counties in North Carolina are without demonstration agents. Under the Emergency

Fund, ten negro agents have also been added for conducting demonstration work with the negroes, and while these agents are not located so as to work entirely in one county, they have done much good by working in the thickly settled negro communities in two or more counties. Taken as a whole, the negroes in about thirty counties are now receiving the benefits of Extension work through local negro agents.

Never before have the county agents been called upon as they have during the past year. They have been asked to make surveys, to act as chairmen of various committees, to solicit funds for various enterprises connected with the war, to aid the farmers in their counties in the production of food and feed; and all of this, in addition to their regular duties. It must be said also that the demonstration agents have brought home the vital importance of food production and conservation in a very telling way to their coöperating farmers. This was reflected in North Carolina's great corn crop, in the widespread attention given to gardens, in the 15 per cent increase in wheat, and in many other ways known to those who are familiar with conditions. Especially valuable has been one feature of their work in which a demonstrative orchard has been placed in each township of every county. In this campaign for more home orchards reliable nurserymen have given reduced prices on their stock and the agents have set out half-acre and acre orchards, seeing to it that the trees are properly planted and cared for. In this way many farmers have been induced to plant small home orchards.

Another work of importance being done by the agents as a food conservation measure has been in the eradication of hog cholera. During the year they have inoculated 54,821 hogs for cholera and have otherwise aided in the control of the disease by advocating proper methods of prevention and sanitation.

The agents have assisted as usual in practical demonstrations with the leading farm crops, showing their coöperators how they might, by using improved methods, greatly increase the yields of these crops. They have aided in the construction of dipping vats and silos; advised about proper use of fertilizer, manure, and lime; have assisted in farm and farmstead improvements; have promoted organizations; have organized and attended different farmers' meetings; have visited the schools, talking to the pupils in regard to improved agriculture, and have placed agricultural and home economics publications where they would be of the greatest possible value; and, on the whole, during the year they have rendered a total of 1,098,525 services of one kind or another to those citizens of their counties interested in agriculture. Summarizing, it may be said that they have obtained excellent results, and the records show that they have been of much value to the counties in which they were located.

WORK WITH NEGROES

In negro work, the white agents have given much help to negro farmers in their counties in addition to the service of the four negro agents who

are employed for full time. The work of the negro agents has been most valuable and has proven a good arrangement where there are many negro landowners. The white agents are very willing to give assistance to negro farmers.

This part of the work has been very satisfactory, field demonstrations having been conducted on most of the principal crops grown in the territory covered. That good is being done can be seen in that 26 negroes who were coöperators have opened new bank accounts since taking up the work and 86 have increased their bank deposits, and about 90 per cent of those who were in debt are rapidly decreasing their indebtedness. Taking everything into consideration, the outlook for the coming year is good.

HOME DEMONSTRATION AND GIRLS' CLUBS

The record of the Division of Home Demonstration for the past year has been one of remarkable accomplishment, as can be seen from a study of this report. At the end of the last fiscal year only forty-four counties were engaged in this phase of Extension work. Twenty new counties have been added during the past year, making a total of sixty-four counties that have trained women working with all their energy to stimulate interest in the production of food crops, and in the conserving of everything produced. From a membership of 6,000 in December, the enrollment in the girls' clubs jumped to 12,000 later in the year 1917, and finally reached the high mark of 14,382 with the additional number of 335,000 people in the different villages and towns allying themselves with the organizations to do canning, and other work, according to the methods outlined by the home demonstration workers. Every club member who had already received instructions in the work pledged herself to teach one other person the art of canning, but it is evident that more than one was taught, from accounts coming in of the amount of material canned, dried or brined.

The demand on the time of the County Home Demonstration Agent was heavy in doing her part to save the enormous amount of vegetables which had been planted in gardens over all the State. Some of the counties which up until that time had not appropriated over $200 to $400 to women's work, greatly increased the total amount of their appropriations, with some counties even giving automobiles to allow the agent to more fully cover the territory in answer to calls for instruction in the saving of fruit and vegetables.

That they did this work well is seen by the records showing a total of 8,978,262 containers being filled by the organized club members and the women and girls outside of the organization, but working under the war-time emergency program. In addition to this, 228,568 gallons of products were brined, 557,853 pounds were dried, making the total amount in money value $2,179,362, at a cost of $544,843, leaving a net profit of $1,634,519.

These agents have also stimulated community effort by helping to introduce community canners, by church activity in canning and drying, by community purchase of canning supplies, by organized selling of products, and by giving assistance in making creditable exhibits at the community, county, and district and State fairs. They have been instrumental in bringing the mothers together in clubs so that they might learn better ways of caring for their children, better methods of preparing meals, and better conditions of all forms of rural social intercourse.

Assistance and instructions have been given in making fireless cookers, iceless refrigerators, fly traps, screens, and in every way possible agents have aided and assisted the women with whom they have worked to realize a more wholesome, refreshing, vigorous rural life.

BOYS' AGRICULTURAL CLUBS

With approximately seven thousand boys enrolled, the Boys' Agricultural Clubs continue to be one of the important parts of the Extension work in the State. The enrollment is divided up about as follows:

Corn Clubs	2,866
Poultry Clubs	1,852
Pig Clubs	1,865
Negro Farm Makers' Clubs	1,423
Potato Clubs	295
Cotton, bean and peanut clubs	225

All of these clubs were put on a war basis in the early part of the year 1917, and an effort was made to cause the boys to realize that they could be of great service in the food production program of the State and Government. The enrollment for the year 1917 was not so large as for the year 1916, due to the fact that it was made a condition at the beginning of the year that every boy who joined must send in a complete report of his work. Later, at the outbreak of the war, when all food producers were urgently needed, these conditions were removed in an effort to stimulate interest among the young folk in food production; but it was then too late to greatly increase the enrollment. Many of the boys enrolled, however, have fully realized the important part that they are able to play as food producers, and some very appealing letters have been received during the year in which a determination is expressed to increase efforts during the coming year.

Another fact which shows that the club work is of great value in rural districts is that reports coming in show that former members of the clubs are actively identified with any progressive movement looking to the development of rural life. They have been brought to a realization through the club work that they really are parts of the community in which they live, and are workers for community improvement.

Grain clubs have been actively pushed during the past fall through the appointment of Mr. W. Kerr Scott; and poultry clubs have been

conspicuous for their success because of the great interest taken by the children in poultry club work. There were 164 organized poultry clubs in the different counties, with a total of 1,132 members, and exhibits were sent in car lots to the State Fair from these clubs.

In the Pig Club work one of the most encouraging features has been the loan of approximately $7,500 to club members by banks on their notes at 6 per cent interest and on the endless chain plan. This means that the pig clubs are playing an important part in introducing better blooded swine in the State. The Pig Club members have won over $800 in prizes because of the high type of animals which they have secured during the past year.

With the negro boys the club work is gradually becoming more popular as they come to understand it better. Under J. D. Wray, agent, located at the Negro Agricultural and Technical College at Greensboro, the work is being put on a better basis, and has greatly expanded during the past year. To give the proper supervision, an assistant, L. E. Hall, has been provided who will aid the regular agent in his duties.

AGRONOMY

Extension work in Agronomy has been grouped principally around the increasing of crop yields, the community improvement of corn and cotton, increased acreage and use of soy beans, extension work with small grains, and attendance on meetings, fairs, conventions, conferences of various kinds relating to the improvement of agricultural conditions. Considerable attention has been directed to the State on account of the activity in increasing the acreage devoted to soy beans, and in making the by-products of this bean after being crushed enter more largely into the economic life of the State. A number of the cotton-seed oil mills in the State are now buying the beans for crushing purposes to prolong the operating season. Seedsmen and canners of food products from without the State are demanding a greater part of the beans than ever before, and the people themselves have begun to use them in a larger measure on the home farm, since a constant study of the question has resulted in a better knowledge of their actual worth.

The improvement of cotton and corn through community breeding and growing has grown in importance. During the past year fifteen communities in eleven counties received aid in the selection and improvement of one variety of cotton in each community. In each particular case a better yielding variety of cotton than the one previously grown has been found and adopted. Varieties introduced have given increased yields amounting in value to from $10 to $30 per acre more than the varieties previously grown. The Division has also coöperated with eleven of the farm-life schools in ten counties in having the students conduct tests with fertilizer and varieties on the types of soil found on these school farms. All this work, together with the many meetings and conferences and the preparation and distribution of publications

of different kinds, have had an important influence, and farmers have become much more interested in soil types, soil improvement, and the better use of improved varieties of crops than heretofore.

ANIMAL INDUSTRY

No more valuable or interesting work is being conducted by the Extension Service than that begun by the Division of Animal Industry to stimulate the production of sheep and wool in North Carolina. A specialist in sheep production, Mr. George Evans, has been secured as Field Agent to assist in the purchasing of rams and ewes for farmers, helping the farmer in feeding and management of flocks, preparing sheep for the show ring, and in interesting growers in coöperative buying and selling of sheep, lambs, and wool. This work, while only begun during the past year, has been tremendously popular, and sheep growers over the State have taken advantage of the appointment of this field man to aid them in their enterprise. During the short time at work last year Mr. Evans placed over forty pure-bred breeding rams in the State.

Two new projects under the Pig Club work consisting of stimulating interest by club members in building properly constructed smokehouses and in properly curing meat were inaugurated and have proven very popular among the young folks. All these have resulted in much good and have caused a more intelligent inquiry as to proper methods of curing meat. This, in addition to the fact that the banks of the State have invested over $7,500 in pure-bred pigs furnished to members of these clubs, has made this phase of animal industry work very valuable.

In beef cattle field work over two hundred pure-bred animals have been brought into the State during the year and over fifty silos have been constructed for feeding beef cattle.

The construction of cheese factories in the mountains and the holding of well attended dairy schools have continued to be most valuable parts of the work of this Division. At present twenty-one cheese factories are in operation in the mountains, and it has been necessary to add Mr. D. R. Noland, a native of Haywood County, to assist Mr. F. R. Farnham in his work in this section. The dairy school work shows a record of seventy dairy schools held in places where the dairy industry is a vital question, and these schools had an attendance of 4,844 boys, girls, and adults.

Poultry Club work in coöperation with the Boys' Agricultural Clubs, and herd record contests, are other popular forms of teaching young people the value of live stock.

ENTOMOLOGY

The proper control of all kinds of destructive insects in the orchards and farms in North Carolina, together with the spraying of orchards for larger production of better fruit, the field study of insects native to

North Carolina, and the production of honey through bee-keeping extension work, are the main lines of activity in which the Division of Entomology is engaged. In this work many thousand trees have been saved from destruction by insects, and profitable effective spraying is becoming more common than ever before. Bulletins on these subjects have been prepared and circulated widely. As an evidence of the food to be saved by proper spraying, the Division reports a difference between sprayed and unsprayed Irish potatoes of over 35 bushels per acre. Extension Circular No. 48, based on this work and giving the results of work in spraying Irish potatoes, has been widely distributed during the past year and has aided potato growers to largely increase their yields by the information contained.

This work against insect pests is primarily defensive and protective, but in bee-keeping it is truly constructive; and the bee-keepers of the State have now been organized with over two hundred bee-keepers in thirty-seven different counties being visited and advised; also a State Bee-keepers' Association formed at an enthusiastic meeting at Winston-Salem. The bee-keeping project is coöperative with the Bureau of Entomology of the United States Department of Agriculture.

HORTICULTURE

The work of this Division affords one of the chief means of increasing and conserving food, and is one of the most popular forms of farming in North Carolina. The Division has interested itself during the past year in the production of food, paying especial attention to the matter of home gardens; production of potatoes, both sweet and Irish; demonstrations in fruit and truck crops, consisting of better methods of growing these crops and caring for them after being produced; the storage of sweet potatoes, and the dehydration, or drying, of fruits and vegetables.

In coöperation with the Farm Demonstration Agents, the location of home orchards all over the State has been an interesting and valuable phase of the work. Plans for growing half-acre and acre orchards were prepared for the mountain, piedmont, and coastal plain sections, together with lists of fruit recommended for each section, and these were distributed throughout the State in the form of blue-prints.

In sweet potato storage several houses with a capacity of from 500 to 5,500 bushels were constructed and 24 old buildings and houses remodeled and changed to suit the improved plan advocated for storage. This work was made possible by the coöperation of the Bureau of Plant Industry of the United States Department of Agriculture.

Very little drying, except sun drying of apples and peaches, had been done in North Carolina prior to last year; but considerable time was spent at this time in securing information and investigating methods of

drying, evaporating, and dehydrating fruits and vegetables, and in giving this information to the public. As a result, this work may become of great importance in the State's program of food thrift.

In home gardens there was an increase of from 100 to 200 per cent for the year.

VETERINARY

The work in Veterinary Science has consisted mainly in acquiring a knowledge of diseases of animals in different sections of the State and the giving of information concerning these diseases. The control of abortion has been given particular attention, having been found throughout the whole State, and much work has been done in advocating control measures. The Veterinarian has spent some time in the field on attendance at farmers' institutes, live-stock meetings, and fairs, where assistance was rendered in judging and inspecting different classes of live stock.

MARKETS AND RURAL ORGANIZATIONS

Good strides have been made by this Division in the forming of credit unions and in the distribution of information concerning the price and marketing conditions of perishable fruits and vegetables. In this the daily wire service, the weekly price report, and the monthly market review have entered largely. An organization was formed during the year for marketing Irish potatoes and apples in the western part of the State, with headquarters at Waynesville. This exchange had the effect of raising the price of potatoes in the section 50 cents a sack to both members and nonmembers, resulting in considerable saving of money for the growers.

The system of grading cotton has been continued. This work has resulted in farmers receiving an average of $1.15 a bale more for their cotton on the average than when they did not know their grade. The Division has begun the marketing of hogs and corn during the past year, and in coöperation with the county agents is planning to organize hog and corn shipping clubs at shipping points where car-loads can be gathered. It would be interesting to note in this connection that one county in the State (Edgecombe) exported eighteen cars last year. Cotton grading and hog and corn marketing are coöperative with the Bureau of Markets, United States Department of Agriculture.

In the matter of credit, several new credit unions have been organized during the year, making a total of fifteen organized to date, with the membership increased from 285 to 527, and depositors from 55 to 181; and total resources have been raised from $7,471 to $19,516. Credit unions have encouraged saving among young and old, the borrowing from banks at 5 per cent interest, the loaning to members at 6 per cent, and encouragement of coöperative cash purchase of supplies.

DRAINAGE

Much of the work done in Drainage is in the nature of extension work, and relates to terracing and tile draining and their related problems. This requires the making of preliminary surveys, the mapping of the farm to be drained or terraced, correct information in the technical phases of laying the tile or building the terrace, and, in general, the determination of the possibilities of drainage or terracing, with a correct idea of the general plans to be followed.

During the past year preliminary surveys, designs, and reports for tile drainage systems were made on twenty-seven farms in eighteen counties, comprising a total area of 1,200 acres. For open ditches and the prevention of overflow from streams, examinations and reports were made on four farms in four counties, comprising a total area of 1,300 acres.

While tile drainage is of necessity more costly than some other forms of farm enterprises in so far as initial expenses are concerned, it is steadily growing in popularity, and many farmers are now calling for assistance and aid in the work.

FAIRS

The work of the assistant to the Director and chairman of the Fair Committee during the year has been conducted along four lines: the holding of the Third Annual Boys' and Girls' Short Course; the supervision of Fair work for the season of 1917; the first Annual School for Fair Judges; and the making of food and feed surveys. In addition to these, assistance has been given to the Director in the problems occasioned by the war, the selective service draft, and the numerous propaganda carried on by many agencies arising out of the war. The two main features of the work may be grouped around the Boys' and Girls' Short Course and the fair season.

The Third Annual Short Course broke both State and Southern records for attendance, 560 club members being present, which included 48 girl members of the canning clubs. Wake County led with 50 members in attendance.

Of the 213 fairs held in the State, 207 coöperated with the agricultural institutions, and the matter of standardizing both these fairs and the premiums has made very steady progress. At present there are five types of fairs recognized, these being negro fairs, community fairs, county fairs, district fairs, and the State Fair. Approximately 439 judges were furnished to do the work of judging at these different fairs.

PUBLICATIONS

Due to the beginning of active participation in the great world war by this country, the regular routine work of the office of the Agricultural Editor was set aside for the purpose of giving closer attention to the

emergency problems in connection with the distribution of information and publicity for a greater production of food and feed crops. These efforts took the form of preparing timely poster bulletins for distribution over the rural sections of the State, the preparation of special articles for Sunday papers, the inauguration of a daily service to the twenty-eight dailies of the State, the editing, printing, and distribution of timely Extension Circulars, and active work in gaining the coöperation and the good-will of the press of the State in aiding in the dissemination of this material.

The office edited and mailed out 1,800 copies of the *Extension Farm News* each week during the year; issued 38 Extension Circulars, comprising a total of 480 pages and 206,650 copies; edited and distributed the multigraph matter of the Extension Service, Department of Agriculture, and Experiment Station, and extended assistance to the County Agents in their multigraph matter so as to aid them as much as possible in their emergency work. This was done only by the installation of modern, up-to-date office equipment, and a study of this question by comparison with the experience of other editors in other States.

At a meeting of the Agricultural Editors of the United States at Cornell University, in June, the supply of material which had been issued by the Agricultural Extension Service of North Carolina was prepared and exhibited and attracted much favorable comment, with the Editor of the North Carolina Agricultural Extension Service being requested to make a report on his work in the State, and his experience in securing the coöperation of the press.

It is needless to say that the coöperation given by the press of the State was splendid during the past year, for the results obtained have shown this in a most striking manner. Probably no other press in the country has been as cordial in its efforts to disseminate agricultural information as has the press of North Carolina during the past year.

REPORTS OF HEADS OF DIVISIONS AND FINANCIAL STATEMENT

Attention is called especially to reports of the several Divisions of the work, and the financial statements, which follow:

REPORT ON FARM DEMONSTRATION

To the Director:

Herewith I submit my annual report on Farm Demonstration Work for the year 1917, this being the tenth year in which the work has been conducted in the State and the fifth year in which it has been carried on in coöperation with the Department of Agriculture and State College of Agriculture and Engineering. During the year, Demonstration Work was conducted in sixty-eight counties. In sixty-six of them there were white agents, and in four of them there were negro agents, two negro agents being in the same counties as white agents. This report, therefore, includes the work done by four negro agents. Since July there have been started a number of new agents, most of

FIG. 1. County Agricultural Agents studying results of experiments with beef cattle.

them in new territory, but practically none of them had completed enough work to make a report on.

When emergency funds became available during the latter half of the year we found it necessary to employ two additional district agents in order to give proper supervision to the work. The State, therefore, was divided into five districts somewhat according to soil types, as follows: Tidewater region, Coastal Plain, Lower Piedmont, Upper Piedmont, and Mountain division. Messrs. J. M. Gray and O. F. McCrary, who had been very successful as County Agents and who had shown efficiency and capacity for leadership, were promoted to the two new districts. During the year several County Agents have resigned, and others have been discontinued, but their places have been filled.

Demonstration work embraces mainly three divisions: that of crops, live-stock, and miscellaneous work.

Demonstration work with farm crops embraces the following: corn, cotton, tobacco, small grain, hay and forage crops, cover crops, winter and summer

legumes, Irish and sweet potatoes, truck crops, garden, sugar-cane, and orchards.

The work conducted with live stock embraces horses, dairy cattle, beef cattle, hogs, sheep, and poultry.

Under the head of miscellaneous work a vast amount of work has been done under the following heads: seed selection, fertilizers, farm manures, lime, drainage, terracing, rotation of crops, pastures, silos, dipping vats, farm machinery and tools, removing stumps, care of timber and wood lots, etc.

There has been a goodly amount of work done that might be classed under another head, such as the promotion of farmers' organizations, things pertaining to the development of the community, work with schools and school children, boys' and girls' clubs, etc.

CROPS

CORN

Among the several crops with which demonstrations were conducted during the year that of corn deserves special mention. Realizing the growing scarcity of food and feed crops in the world on account of the war, we put on a campaign early in the season to increase the acreage of these crops, and especially of corn. When we entered the war in April we at once made a strenuous effort to get additional acres planted to corn and other grain crops that were in season then.

Reports from County Agents and otherwise show that there has been a considerable increase in acreage planted to corn. A number of farmers were induced to put otherwise idle acres to corn, peas, beans, etc. While the yield per acre on these extra acres has probably been below the average in corn yields, yet so far as the total crop is concerned they amount to an increase that would not otherwise have been made.

The average yield of corn in the State is estimated at about 20 bushels per acre—practically the same as last year. The average yield on Demonstration area, however, as reported by County Agents shows an increase of about 5 bushels per acre over last year, the total acreage in Demonstration work being 25,932 acres, and the yield 48.7 bushels. The average yield made by negro farmers who were conducting corn demonstrations was 34 bushels per acre. This is probably about three times the average made by negroes in the State.

The following information gleaned from County Agents' reports gives some idea of what they have done with corn growing this year, both as to increase in acreage and use of better methods. One agent writes that, realizing the scarcity of corn and the amount purchased by his farmers every year, he adopted as his slogan, "We must feed ourselves." He reports that there is enough corn in the county now to carry the farmers until the next harvest. In fact, a number of counties this year have produced enough corn for their own consumption. After war was declared many farmers plowed up poor stands of cotton and planted the land to corn. Since we have a Market Division, farmers are not afraid to produce a surplus. Many meetings were held in the corn campaign work. Farmers are having to increase their storage capacity for corn. They are getting more shredders and silos, thereby making better use of their corn crops. One agent had seventy demonstrators that made an average actual measured yield of 58 2/3 bushels per acre. One

agent had the county to purchase a shipment of good seed corn and to sell to farmers at cost. Those who were not able to buy it were furnished the seed free. Another agent writes that now every farmer in his county believes in and practices deep fall and winter plowing, with shallow cultivations while the crop is growing. Still another writes that not a single farmer in his county was seen cultivating corn by the old method of going deep with the turning plow. In a number of instances farmers with insufficient horse power coöperated by putting their teams together to get deep breaking done. At one county fair 50 per cent of the corn exhibited was of a pure-bred type. Not over 10 per cent of the farmers in that county used good seed before Demonstration work started. At that same county fair one farmer who won first premium on his good seed took orders for over one hundred bushels of seed corn for future delivery and planting. The majority of the agents report the biggest corn crop ever made in their counties.

COTTON

With cotton we have not urged an increase of acreage, but have sought to get more profit through the use of prolific seed, more judicious fertilization, better culture, etc. Our 400 demonstrators with over 2,500 acres produced an average of 1,152 pounds of seed cotton per acre, or about 50 per cent more than the State average.

A valuable feature of the work with cotton has been the determining of the best variety for each locality, and the getting of various communities to agree to use the variety exclusively. This will not only result in larger yields, but in better prices on account of farmers being able to offer large lots for sale, thus getting bidders to come to them to buy. Also, much work was done toward eliminating such diseases as are prevalent in this State.

TOBACCO

With tobacco, as with cotton, we have not urged an increase in acreage, but rather a decrease or reduction of acreage with the substitution of better methods in order to get larger profits, and also to allow larger acreages to be devoted to food and feed crops. Some good work was done in inducing farmers to select their seed from desirable types.

WHEAT

In the early fall we made a strenuous campaign for an increased acreage in wheat on account of the shortage incident to war conditions. Our estimated acreage now shows that this campaign was successful. We have planted the increased acreage asked for by the Federal Department of Agriculture.

During the past season we had about 2,000 demonstrators who produced an average of 28 bushels per acre on 11,000 acres. This was probably a little more than double the average of the State. Some 200 of these demonstrators treated their seed for insect pests, and about 12,000 farmers altogether were induced to treat their seed for smut.

RYE

While rye is not as valuable a soil improver as legumes, yet sometimes it is more advisable to plant as a winter cover crop. This is on account of the

seed being more plentiful, much lower in price than clover seed, and a much surer crop than clover. On account of the scarcity and high price of clover seed last fall, we turned to rye as a good substitute. Our records show that we have over 2,700 demonstrators, who have planted over 18,000 acres of rye. Of course, this represents a small percentage of the total amount of rye that we have induced farmers to plant. Last season our average yield of rye was estimated at 20 bushels per acre. Our records show that our demonstrators turned under for soil improvement over 14,000 acres. Also, we induced over 4,000 farmers to plant rye for the first time.

CLOVERS

Our getting planted winter cover crops of clover has been hampered by the scarcity and high price of seed. We have only a little over 6,000 acres in demonstrations of clover. We are urging the matter of saving seed from as much clover as possible, in order to obviate the matter of the scarcity of seed. As soon as we can get farmers to largely save sufficient seed for their own planting, cover crops of clover will be immensely increased.

Much good work has been done in getting farmers to inoculate their seed wherever inoculation was needed.

GRASSES

Gradually, we are getting farmers to plant considerably more grasses and mixture of grasses with clover. By proper combination of varieties we are getting the crops that will stand from three to five years, and give good cutting or good grazing every year. On account of this permanency, these mixtures are much more profitable and more valuable than single grasses planted alone.

VETCH

For the eastern half of the State, especially, we have found vetch to give good results wherever planted. During the last season we had about 250 demonstrations with this crop. The estimated yield per acre where it was saved for hay is two tons.

ALFALFA

For the last three years we have been advocating alfalfa for the western half of the State under conditions suitable for its growth. We have limited our demonstrations, however, to special farmers who would follow our detailed instructions in preparing the soil and giving it suitable attention. We find that where our instructions are followed, alfalfa is a very valuable crop, but under indifferent and poor methods of handling, it is not profitable. During the past season we had over 300 demonstrations with over 1,100 acres that yielded over 4 tons per acre. Of course, a large area of it was grazed rather than cut for hay. Briefly, the conditions for growing alfalfa successfully are about as follows: good drainage (either natural or artificial), deep breaking with thorough pulverization of the soil, the incorporation of organic matter either as cover crops turned under or heavy applications of stable manure, good seed, inoculation, and lime. These things, with proper planting dates, usually produce successful growths of alfalfa. During the past fall we have planted another 1,000 acres in alfalfa demonstrations.

SOY BEANS

In the way of summer legumes we are finding that under most conditions soy beans are preferable to cowpeas. Some of their advantages are: they stand more wet weather and more dry weather, make a larger yield of forage and grain, and uniform ripening of the seed. The area planted to this crop has been much extended during the last year.

On demonstration acres of 2,800 acres the estimated yield of seed per acre is 17 bushels, and that of hay about 2½ tons.

VELVET BEANS

For solely soil improvement purposes we have found nothing equal to the velvet bean. This is on account of the large amount of organic growth which it produces, and the large amount of nitrogen gathered from the air. Also, farmers who are growing this crop find it very valuable for grazing hogs and cattle on from the first of December to the last of March.

During the past summer the planting of velvet beans was greatly extended. We were furnished free from the Florida Experiment Station 6 bushels of velvet beans, which we distributed in small quantities for demonstration purposes. Altogether we had over 1,000 demonstrations with this crop the past season. The estimated yield of seed per acre was 23 bushels, and of hay when cut for forage purposes a little over four tons. We think it advisable to push the matter of growing velvet beans for several years to come in order to help build up our poor soils.

COWPEAS

We are still advocating the growing of cowpeas under conditions where it is more advisable to grow them than soy beans. This being an old crop with us, however, it does not need so much attention as soy beans and velvet beans. Our 500 demonstrators have estimated their yield of peas during the past season to average 12 bushels per acre as against 17 bushels for soy beans. There was not much difference in the estimated yield of hay per acre.

POTATOES

Practically all farmers are growing small patches of Irish and sweet potatoes for home consumption, and in certain sections they are grown on a larger scale for commercial purposes. We have not done much demonstration work with either of these crops, but have helped many farmers by way of suggestion, etc.

ORCHARDS

One of the most valuable features of our work for the past year was that of orchards. With our blue-print plans for acre and half-acre demonstration home orchards we have located over 700 such orchards. On these plans information is given as to suitable varieties for the several sections of the State, proper distances, proper planting, cultivation, fertilization, etc. Our agents will keep in close touch with these orchards from year to year, and help farmers with pruning, spraying, worming, etc. They will be used as demonstrations in these several respects.

The total amount of work done with orchards shows that we induced the planting of over 1,100 orchards with a total of nearly 40,000 trees. Also, we inspected over 6,000 orchards with 120,000 trees; pruned 2,600 orchards with 7,700 trees; sprayed 1,200 orchards with over 7,400 trees; wormed over 700 orchards with 2,600 trees.

LIVE STOCK

Our work with live-stock demonstrations has been very satisfactory. In coöperation with our live-stock experts there has been brought into the State during the past year nearly 2,500 pure-blooded animals for breeding purposes, with 1,300 demonstrations with about 59,000 animals.

HOG CHOLERA

Our agents have been very successful in controlling hog cholera and saving hogs. Under the direction of our State Veterinarian, County Agents have inoculated over 54,000 hogs during the year. We have no correct figures as to what percentage of the inoculations were successful, but in a general way we judge by reports of County Agents that about 90 per cent of the hogs inoculated were saved. This is important work, and especially now while there is a scarcity of meat in the country. In addition to this, we have treated for other common diseases and parasites some 39,000 animals, including horses, hogs, cattle, sheep, poultry, etc.

DIPPING VATS AND SILOS

It has been necessary for the past season with live stock to do some dipping for certain parasites and diseases, and under some conditions to build silos for taking care of summer crops for winter use. These two things have been given attention by agents, as is shown by their being over 100 dipping vats built during the year, and over 100 silos built by agents' advice and assistance. There has been dipped a total of 6,600 animals.

FERTILIZERS, MANURES, AND LIME

These things have been given proper attention throughout Demonstration territory. We do not yet know just the best combination of fertilizers under the various conditions where they are used, but we are trying to keep up with the work of our Experiment Stations in this matter. Many farmers have been induced to home-mix their fertilizer, saving thereby from $3 to $5 per ton. Over 400 farmers have built manure sheds on our advice; 1,300 manure spreaders have been bought. Over 5,000 farmers have made compost heaps.

FARM AND FARMSTEAD IMPROVEMENTS

Under this heading we will not go into details here, but will refer you to the summary at the end of this report. This summary shows the vast amount of work done with many things about the farm home. Among this work we desire to call attention to the fact that 190 home water systems were established during the year. Our records show that there were 352 of these systems in Demonstration territory before Demonstration work started, and now there are 1,319. There were installed during the year 921 lighting systems.

Under this head, also, much work has been done with gardens. In the early spring we put on a campaign for garden work. Our records show that we had over 14,000 gardens planted or improved. This means a great deal in

the way of a living for people on the farm, the garden products being used both in a green and a preserved state.

Our records under this head also show that farmers are rapidly getting new farm implements and tools of improved types. The figures in the summary show this.

MISCELLANEOUS

Under this head, also, you are referred to the summary at the end of this report, there being too much of it for detailed discussion.

EMERGENCY FUNDS

Since Emergency funds became available in July, 20 new counties have been added to Demonstration work with white people, and 10 negro agents have taken up local work with negroes. This makes a total of 90 white agents and a total of 14 negro agents in the work now (January 1st).

With white agents only one agent is working per county. In the case of ten of the negro agents, they are covering in a general way two or three counties each. By working in community centers they can influence the negro population throughout the territory covered.

As fast as practicable, we are placing white agents in all of the other counties that are vacant now. We expect to have this work completed in the next four or five weeks, in time to have the men on the work to begin the crop season of 1918. With this number of men at work, good methods of agriculture should rapidly be spread over the whole State.

NEGRO FARM DEMONSTRATION WORK

This report on Negro Farm Demonstration Work covers fairly well the work done by four negro agents now employed and work done with negroes by white County Agents.

On account of the demands made on the white agents by white people, they have not done very much work for negroes of which records have been kept. Incidentally, however, they have helped them quite a good deal individually, and by addressing them at meetings. We are thoroughly convinced now of the advisability of having Negro County Agents to work with negroes wherever the number of negro landowners warrants it.

Field demonstrations during the year have been conducted with all of the farm crops grown in the territory covered, with probably the exception of sugar-cane, and two or three others that are grown only very sparingly.

CORN

The records show that with corn 255 demonstrators on 2,174 acres produced an average of 39.7 bushels per acre, or practically twice the average yield of the State. All of these demonstrators planted improved seed corn of some kind, and 606 of them have field-selected corn seed to the estimated amount of 1,163 bushels. One hundred and seventy-nine of these demonstrators fall plowed some of their land; 161 of them turned under cover crops for soil improvement.

COTTON

The matter of cotton growing was not given very much attention, or as much as some other crops, especially of the food and feed crops; but 85 demonstrators on 122 acres produced an average of 1,108 pounds of seed cotton per acre. Most of them planted improved cotton seed; 38 of them field-selected seed for next year's planting. Most of these fall plowed their demonstration acres; that is, about 75 per cent of them. One hundred and fifty farmers turned under cover crops.

SMALL GRAINS

Considerable work was done mainly with oats, wheat, and rye. There were 486 field demonstrations comprising about 1,200 acres. The yield of wheat was 18 bushels per acre. Much of the seed wheat planted was treated for smut. The Negro agent in Sampson County estimates that there were not over 10 acres sown in rye the year previous to the starting of Demonstration work, and now there are over 500 acres. There were no oats with vetch planted previously, but afterwards about 50 acres were planted in the past season.

CLOVERS

On account of the scarcity and the high price of seed, and lack of cash for purchasing them, the negro agents have done very little planting of this crop, but have made a start as shown by there being 24 farmers who planted crimson clover on 39 acres. We expect to give the matter of winter cover crops more attention hereafter.

SUMMER LEGUMES

With summer legumes the work was fairly satisfactory. The records show that 123 farmers were induced to conduct demonstrations with soy beans on 236 acres, and the average yield of seed per acre was estimated at 16 bushels. Much of these beans were harvested by hogs running in the fields, although some of them were cut for forage. In one county the agent has done good work by inducing the negroes to plant soy beans among corn. The two crops furnish a fairly balanced ration for hogs.

With cowpeas there were 50 demonstrators who planted about 400 acres. No estimate is made of the average yield. The negroes, as well as the whites, are finding that soy beans, under most conditions, are more valuable than cowpeas, although the latter has its place in farm economy.

Negroes are interested in soil improvement, as is shown by 56 of them who planted velvet beans on 166 acres. The estimated yield of seed per acre is 30 bushels but probably this is rather high.

POTATOES

Only a small percentage of negro farmers plant Irish potatoes, but most of them plant sweet potatoes. With this crop we had 65 demonstrators with 225 acres, producing an estimated average yield of 88 bushels per acre.

ORCHARDS

Negroes are becoming interested in fruit. The records show that 26 Home Demonstration orchards were planted during the year with a total of 1,439 trees. The records show further as follows:

Number of orchards inspected,	3,331;	Number of trees,	9,210
Number of orchards pruned,	37;	Number of trees,	286
Number of orchards sprayed,	145;	Number of trees,	1,183
Number of orchards wormed,	25;	Number of trees,	6,615
Number of orchards planted,	26;	Number of trees,	580
Making a total of	4,640	orchards, and	17,874 trees

LIVE STOCK

The records show that negroes have been instructed in the better care and feeding of their work stock. Very few definite demonstrations have been conducted, but much valuable suggestion and advice has been given. In the territory covered by this report there were brought in by negroes 6 bulls and 37 pure-bred cows of a beef type, and 7 beef-breeding herds were started.

The matter of hogs was given more attention than larger animals. During the year 125 pure-bred boars and 105 pure-bred sows were brought in, and 87 herds were started. Eighteen feeding demonstrations were conducted with 187 hogs.

One of the most hopeful signs for the increased pork production by negroes is the attention given to the matter of pastures and grazing crops. During the year the agents induced 78 farmers to start hog pastures, while 268 engaged in growing grazing crops for hogs. Also, much was done in the way of feeding better balanced rations, more sanitary conditions, the eradication of vermin, etc.

POULTRY

With poultry, 73 demonstrations were conducted with 2,755 chickens, 250 ducks, 105 guineas, 600 turkeys, and 350 geese. Over 700 farmers were induced to improve their management of the farm flock. In a number of cases the agents were able to give advice for the eradication of poultry diseases. Much was done in a general way toward providing more comfortable quarters for fowls.

Under this head the records show that 746 animals were treated for the more common diseases such as lice, worms, ticks, etc.

FERTILIZERS

During the year over 1,200 negroes were advised in regard to the proper use of fertilizer. Over 60 farmers conducted fertilizer demonstrations, using 74 tons. In several cases farmers were organized and bought fertilizer cooperatively to the amount of 540 tons, valued at $18,900, saving thereby $1,440. About 75 farmers mixed their own fertilizers, saving thereby an average of $3.85 per ton. Nearly 500 farmers top-dressed their crops at the suggestion of Demonstration agents.

Sampson County reports three Negro Farmers' Unions buying coöperatively at seven places in the county. Any member of the union in good standing is able to procure fertilizer on time.

MANURES

The work with manures has been rather general. The reports show 1,777 farmers were induced to take better care of their farm manure, and 53 of them built manure sheds for protecting it. In this territory 29 manure spreaders have been purchased. Demonstration Agents claim direct credit for only seven of these, however.

LIME

The more intelligent and progressive negroes are becoming interested in the use of lime. About 60 of them used 90 tons during the past season with good results.

ORGANIZATIONS PROMOTED

It is very easy to organize negroes in most instances. Our men have tried to make their organizations useful. About 20 farmers' clubs were organized with a membership of 490. These consisted of Home-Made Meat Clubs, Corn Clubs, Poultry Clubs, Pig Clubs, Farmers' Unions, Fair Associations, Improvement Leagues, etc.

FARM AND FARMSTEAD IMPROVEMENTS

The records below show that much good work has been done under this heading as follows:

Buildings erected, 39; buildings improved, 180; building plans furnished, 17; buildings painted and whitewashed, 36; water systems installed, 3; lighting systems, 5; home grounds improved, 561; sanitary conditions improved, 612; homes screened against flies and mosquitoes, 202; fly traps installed, 75; sanitary outhouses, 51; telephones put in, 75; systematic crop rotations, 40; pastures established, 7; drainage systems put in, 3; farmers draining land in other ways, 63; by tile, 5; farmers removing stumps, 77; terracing, 8; home gardens planted or improved, 907; saving surplus farm products for winter use, 752.

COVER CROPS

The greatest acreage with cover crops is that of rye amounting to 875 acres as demonstrations, the total number of acres of all crops being 2,218.

IMPLEMENTS

Negroes are getting more into the use of farm machinery and farm tools of various kinds. In demonstration territory they have purchased the following during the past season:

Mowers, 22; hay rakes, 22; hay presses, 3; grain drills, 13; gas engines, 5; disk harrows, 8; two-horse cultivators, 12; one-horse cultivators, 40; spraying machines, 41, and 400 small tools.

MISCELLANEOUS AND STATISTICAL

The following figures taken from the records show something of the activity of the men doing the work. The agents made visits as follows:

To demonstrators, 859; to coöperators, 1,769; other farmers, 772; Boys' and Girls' Clubs, 400; business men, 613; or a total of 4,413 visits.

Miles Traveled

As yet our negroes are traveling mainly by horse and buggy, while some of them go on foot to a limited extent. Miles covered show as follows:

By rail, 1,574; by team, 10,336; otherwise, 681, or a total of 12,591 miles.

Calls on Agents

During the year 1,388 people called on the agents at their offices or homes, while 60 called them over the telephone, making a total of 1,448.

Meetings Held

The holding of meetings is a very successful way of reaching negro farmers. As a rule, it is not much trouble to get them out. Agents doing this work report the holding of 156 meetings under their own auspices, and the attending of 367 meetings, both together, with a total attendance of 4,490. They also held 64 field meetings, with an attendance of 879, thereby reaching altogether through meetings 5,369.

Correspondence, Etc.

They have written 1,405 letters; published 12 articles; sent out 16,537 United States bulletins, and 1,824 College and State Department of Agriculture bulletins. They have visited 112 schools in connection with their work, giving during the visits 9 outlines for agricultural courses.

It is reported that 9 farmers attended short courses, and 22 boys attended agricultural colleges or courses, and 25 girls attended industrial or other schools as a result of Demonstration work.

Our specialists have not overlooked negro agents altogether. The records show that they made 16 visits to them.

Fairs

Negroes are doing much in the way of fairs, one or more being held under the auspices of each agent. Some of them were very creditable indeed, and showed quite a variety of well-selected products exhibited.

Good Seed

Over 600 farmers were induced to select good seed; about 100 of them have seed for sale; about 600 are fall plowing.

Financial

Since 10 new agents have been put on, each of them is getting a part of his salary from local funds. The negroes do not seem to have much trouble in raising the moderate amounts asked for.

Twenty-six negroes have opened new bank accounts since beginning Demonstration work, and 86 others have increased their bank deposits. About 90 per cent of those who are in debt are decreasing their indebtedness.

Under the operation of the Emergency funds the ten negroes started to work since July are doing work in about thirty counties. They do not cover the entire counties, of course, but work mainly in community centers, because negroes are usually in communities. The agents are enthusiastic, the people are interested and even demanding the work. On the whole, the outlook is good for the best of success for the work next year.

CONDENSED SUMMARY

DEMONSTRATIONS WITH FARM CROPS

(Corn, cotton, tobacco, wheat, rye, oats, barley, clovers, grasses, cowpeas, soy and velvet beans, peanuts, etc.)

1. Number of demonstrators, 13,543; acres, 79,613.
2. Number planting pure or selected seed, 3,973.
3. Number selecting seed, 11,291; bushels, 34,116.
4. Number fall plowing for demonstrations, 1,203.
5. Number turning under cover crops for demonstrations, 33,859.
6. Number acres treated for diseases or insect pests, 4,480.
7. Number farmers influenced to use better methods, 111,497.

DEMONSTRATIONS WITH LIVE STOCK

(Horses, hogs, dairy and beef cattle, sheep and poultry)

1. Number of pure-blooded animals brought in during the year, 2,467.
2. Number of demonstrations, 1,349; animals, 59,105.
3. Number of hogs inoculated for cholera, 54,821.
4. Number of animals treated for other diseases and parasites, 39,398.

DIPPING VATS AND SILOS

1. Number dipping vats built in demonstration territory, 16.
2. Number dipping vats built by agents' advice, 121.
3. Number animals dipped by agents' advice, 6,620.
4. Number silos built in demonstration territory, 117.
5. Number silos built by agents' advice, 112.

FERTILIZER, MANURE, AND LIME

1. Number farmers advised about proper use, 42,896.
2. Number of demonstrations, 963; tons used, 32,562.
3. Number of home-mixings advised, 6,103.
4. Number of manure sheds built on advice, 412.
5. Number of compostings on advice, 5,033.
6. Number of manure spreaders bought on advice, 1,301.

ORCHARDS

1. Number of demonstration home orchards, 723.
2. Total number of trees they contain, 60,425.

3. Number of orchards inspected,	6,612;	trees,	121,117
4. Number of orchards pruned,	2,699;	trees,	77,639
5. Number of orchards sprayed,	1,255;	trees,	74,896
6. Number of orchards wormed,	772;	trees,	26,051
7. Number of orchards planted,	1,139;	trees,	39,697
Totals: Orchards,	12,777;	trees,	339,400

FARM AND FARMSTEAD IMPROVEMENTS

Things done with the assistance and advice of agents:

1. Number of buildings erected, 296.
2. Number of farm buildings improved, 674.
3. Number of new building plans furnished, 238.
4. Number of farm buildings painted or whitewashed, 446.
5. Number of home water systems installed or improved, 190.
6. Number of water systems in county before Demonstration work started, 352. Number now, 1,319.
7. Number of home lighting systems installed, 921.
8. Number of home lighting systems in county before Demonstration work started, 110. Number now, 1,072.
9. Number of home grounds improved, 1,614.
10. Number of farm and home sanitary conditions improved, 3,574.
11. Number of homes screened against flies and mosquitoes, 6,687. Number of fly traps installed, 1,820.
12. Number of sanitary privies erected, 2,035.
13. Number of telephone systems installed, 1,336.
14. Number of farmers furnished plans and induced to adopt a systematic rotation, 4,058.
15. Total acreage of such rotations, 91,271.
16. Crops commonly used in these rotations: standard farm crops.
17. Number of new pastures established, 916.
18. Number of old pastures renovated, 481; acreage, 11,902.
19. Number of drainage systems established in county, 608.
20. Number of farmers induced to drain all or part of their farms, 1,358.
21. Number of such acres drained—by tile, 2,995; by ditch, 9,060.
22. Number of farmers induced to remove stumps, 927; acreage, 7,073.
23. Number of farmers induced to terrace their sloping lands, 1,955; acreage, 35,098.
24. Number of home gardens planted or improved, 14,837.
25. Number of farmers induced to save surplus farm products for winter use, 21,464.
26. Number of road-improving demonstrations assisted in, 71.
27. Number of miles of improved roads resulting therefrom, 725.
28. Number of farmers who planted cover crops to be turned under, 20,127.
29. Number of acres in each kind of cover crop:

Crop	*Acreage*
Clover	30,659
Rye	75,316
Oats	4,705
Wheat	669
Barley	15
Mixed	13,774

30. Number of new implements and tools bought: Binders, 132; mowers, 433; hay rakes, 340; hay presses, 75; grain drills, 518; ensilage cutters, 100; gas engines, 252; disk harrows, 644; cream separators, 148; cultivators, two-horse, 326; one-horse, 2,563; small tools, 9,954; spraying machines, 427; miscellaneous, 1,519.

ORGANIZATIONS PROMOTED

Farmers' clubs organized, 199; membership, 5,665. There is a county or central organization in 31 per cent of the counties.

MISCELLANEOUS

1. Number of visits made by agents, 71,838.
2. Number of miles traveled by agents, 457,424.
3. Number of calls made on agents, 51,449.
4. Number of meetings held by agents, 2,890.
5. Number of meetings addressed by agents, 3,708.
6. Number (total) attending above meetings, 251,817.
7. Number of field meetings held by agents, 1,055.
8. Number attending field meetings, 14,488.
9. Number of official letters written, 45,150.
10. Number of published articles written, 1,755.
11. Number of circular letters written, 52,222.
12. Number of U. S. Department of Agriculture bulletins mailed, 76,721.
13. Number of State bulletins mailed, 36,003.
14. Number of talks made to schools, 1,998.
15. Number in attendance at the schools, 6,744.
16. Number of services rendered in numbers 1, 3, 6, 8, 11, 12, 13, 14, 15 and 19, total, 624,106.
17. Number of demonstrations conducted with farm crops, live stock, dipping vats, silos, fertilizers, manures, lime, orchards, etc., total, 474,417.

Total services rendered, 1,098,525.

Respectfully submitted, C. R. Hudson,
State Agent.

REPORT ON HOME DEMONSTRATION WORK AND GIRLS' CLUBS

To the Director:

Home Demonstration work received a wonderful impetus during the year 1917 when it was realized the part in food production and conservation that America would be expected to play during the world war. It was to the women as well as to the men that the Government looked when it called upon its citizens to increase food production, and especially was the woman's part stressed in the urgent need for the economical use of foods in the homes. Calls from every direction came to the Division of Home Demonstration Work. It was the woman force already organized in a county, and we have been very proud of the way in which the working system of the organization stood the strain.

In December, 1916, forty-four counties reported work done in Home Demonstration. By July 1, 1917, sixteen other counties had been added, making a total of sixty counties with sixty trained women, each bending her efforts toward organizing her forces into a systematic working body to meet the necessities of the times.

Counties which had formerly appropriated only enough money to secure the services of a supervisor for a few months willingly increased the amount sufficiently to warrant the employment of a trained Home Economics woman for twelve months. Indeed, in most instances enough money was given to enable the agent to purchase a car as well as to pay salary and traveling expenses. The appropriation to a county from this Division does not exceed $600, but that did not prevent three counties from appropriating $1,200 additional, each, and four others $1,000 each. These appropriations enable an agent to go quickly from point to point, to give better supervision, and to accomplish almost twice as much work as she could do without a car.

Of the sixty-three counties organized by December 1, 1917, forty-seven of them are employing whole-time agents, and forty-four agents have automobiles at their service.

ANNUAL CONFERENCE

Fortunately, our annual conference and school for agents is held late in May and in early June, and we were able to come together in 1917 with very definite ideas of the difficulties besetting our path. Already an avalanche of requests for instructions as to how to grow gardens had come to each county agent, and she had been busy giving instructions to city and county women alike. Gardens sprang up everywhere as if by magic—in the back yards, by the railroad tracks, in the cotton patches, and in the new ground.

It could be seen that there would probably be an enormous amount of vegetables grown in North Carolina, and that we must be prepared to instruct in the canning, drying, and otherwise preserving of the output.

Each agent was asked to select her most expert club members and to detail them for special work in the different communities of her county.

COMMUNITY CANNERIES

Some of these girls organized and operated successfully small community canneries. There have been one hundred and forty-two community canneries recorded. The people of the community built and wired a shed and

paid for the canner, and it was there they brought their products and were assisted in canning by the club girls, who had already learned in their three, four, or five years training how to grade, pack, and sterilize successfully.

In Raleigh the Social Service Department of the Woman's Club agreed to can for the poor of the city the surplus vegetables sent them from the city gardens. Two Canning Club girls came in from a near-by rural club and agreed to give what knowledge they had of canning to the club women until the cannery was in working order.

The wife of our Chief Executive, who was one of the most loyal and patriotic of canners, invited these girls to be her guests at the Governor's Mansion while they were in town. The girls were glad to do their bit by contributing their knowledge of canning, and were made very happy by the many social courtesies extended them by the ladies whom they helped.

The cities all over the State, as well as the rural section, became vastly interested in the producing and canning program, and many of them through their chambers of commerce and woman's organizations called upon us to help them organize and operate community canneries.

The city commissioners of Asheville gave for a cannery site the use of a large concrete fountain basin on the courthouse green, and a live woman's organization fitted the basin with a roof and wire netting walls. Canners and tables were installed and the women stood ready to operate the plant. A trained canner was sent out by the Division of Home Demonstration Work, and the county Home Demonstration agent helped where it was possible. Later these were followed by two county club girls who acted as supervisors of canning. This organization records an output of 10,000 cans.

In Gastonia, a town of about 8,000 inhabitants, thirty canning clubs were organized. These clubs filled in the aggregate 30,000 cans by the 1st of August.

The city of Durham, with the assistance of its county agent and another trained Home Demonstration worker, produced 65,000 cans in its community canneries. Wilmington's record was 75,000 cans. The amount of produce preserved in the town of Wilmington and the country surrounding it was nothing short of marvelous, as the county supervisor did not assume her duties until late in May. It was the fine coöperation of the Food Administration, the Chamber of Commerce, and the patriotic citizenship that made it possible to get such a record as 265,425 containers filled in one season.

CHURCH CANNERIES

The church organizations were most interested coöperators, and established canneries for the benefit of the women in the city who could not can for themselves. Vegetables and fruits were brought to the church yard and canned on shares or for a stipulated sum.

These church organizations are going to be great factors in lining up the city women to garden and to save the products of that garden.

MILL WOMEN AS CANNERS

The managers of several cotton mills wrote asking for trained girls to instruct the women of the mill village in gardening and canning, and we were able to place some of our girls and women at very satisfactory salaries.

The Patterson Mills at Roanoke Rapids employed a club girl for five months,

and the results were so satisfactory that they have engaged her as teacher and community worker for the year. Fifty-eight girls and women in this mill village produced 9,664 containers.

The Caraleigh and Raleigh cotton mills employed as a joint supervisor one of our club girls who was a student at the State Normal specializing in home economics. In the three months supervision twenty-three women from Caraleigh filled 1,500 cans, and twenty-seven women from the Raleigh mills 3,368 containers.

The three big Cone mills of Greensboro each put in one of our specialists in canning.

On the Reynolds place in Forsyth County the steam pressure sterilizer used for the dairy interests was shared with the women and girls in the community, and under a trained Home Demonstration woman these canners put up 10,000 gallon-cans and 4,000 quart and No. 2 cans of fruit and vegetables. Many of these things were bought by the management of the lunchroom for the tobacco factory employees, the women and girls realizing a good profit.

STATE INSTITUTIONS

One of our trained workers was placed at the State Hospital for the Insane, and we were very proud both of the quality and the quantity of work done under her supervision. At the State Fair a fine display of these products in gallon cans was made. The summer's output amounted to 35,500 quarts.

INSTRUCTING THE COLORED PEOPLE

The eager calls from the colored people have been attended to. In every organized county the Home Demonstration agent has been glad to assist where she could, and results have been most gratifying. Intelligent colored women and men have come out to the demonstrations and agreed to go back and instruct others of their race in the art. They have planted gardens and harvested good crops, and it has been an easy thing to interest them in preserving what they have produced.

In Pitt County one of the colored boys working in a hotel was very desirous of learning to can. His employer permitted him to go to the demonstrations given by the county agent in the neighborhood. He offered to split the wood and attend to firing and filling the canner, that he might be near when instructions were given. He learned to can so well that he has now over 500 cans to his credit.

CLUB GIRLS' PLEDGE

Every club girl was asked to pledge herself to teach at least one other person how to can in 1917; but it is evident that each one of them multiplied herself many more times than that. As we gather statistics, the figures show that 3,289,415 containers were filled in the summer of 1917 by club members, and 5,488,847 by women and girls outside the organization who were helped by agents and club members with demonstrations and recipes.

This makes a total of 8,778,262 containers for fifty-eight counties in the State. Total value, $2,179,362; total profit, $1,634,519. Most of the forty-two unorganized counties were visited by our supervisors and groups of women were instructed in canning, each in turn promising to pass on her knowledge to some one else. We have no means of determining just how much was preserved in these counties. Any estimate would be guess work, pure and simple.

PAGE FROM A COUNTY AGENT'S WEEKLY REPORT

A page from a county agent's weekly report will serve to show something of the work accomplished by these women:

"This week in Lilesville community we canned corn, soup mixture, tomatoes, and kraut. I am just delighted with the progress these people are making. Two years ago they did not try to save anything but fruit; today every club member has from 150 to 700 jars of all kinds of vegetables, as well as fruits. They are determined to save for the winter.

"This has been a good year for tomatoes in our county. I find the club members rushed with the crop and calling for extra cans.

"Much of what is being produced is for the pantries of the women who will not be able to buy tin cans, but who have old jars of many sizes to fill. They are quite careful to buy new rubbers for these jars.

"You should see with what pride the husbands exhibit the beautifully packed jars to visitors. I believe they are as much interested as the housewife.

"The past two weeks the weather has been favorable for drying in the sun, and we have saved many bushels of fruits and vegetables in this manner.

"The corn crop is fine, which means fat pigs and calves, and also that we can release more wheat.

"My county is going to need much less shipped food than ever before."

HOW ESTIMATE WAS OBTAINED

The estimate of cans filled outside the clubs was based on the number of tin and glass cans ordered and sold in the county. We could determine very accurately the number of car-loads coming in and how many the merchant had sold by the end of the season. Any jars bought and not filled could be easily offset by the number of old jars made to do duty a second time. The organized club members reported the number of cans filled by them.

One merchant in Wake County ordered nine car-loads of glass and sold them all in the county. A car carried 1,800 jars. Several counties ordered as many as three or four car-loads of tin, averaging 50,000 cans to the car.

In many towns the grocers are telling us the demand for canned goods is far below normal, owing to the number of home-filled cans on the pantry shelves.

HOW THE COUNTIES PURCHASED CANS

It was interesting to see how the counties supplied their women with cans.

County agents were rarely turned down by the county commissioners, the chambers of commerce, or the banks, when they appeared asking for financial backing for the purchase of one, two, or even three car-loads of cans. This meant the paying out of from $2,250 to $7,750.

The money was forthcoming for the purchase, and cans were delivered to would-be canners. Sometimes cash was paid; more often notes were given to be paid when part of the full cans could be marketed for the debt.

In one county the only endorsement appearing on a club girl's note was a United States flag up in one corner.

THE 4-H CANNING CIRCULAR

Extension Circular No. 11, on Canning, Preserving, Jelly-making, and Pickling, prepared by this Division, went early into its second edition, copies going not only to all parts of the State, but to outside calls from Maine to Texas.

CANNING MEAT AND FISH

The canning of meats and fish has been undertaken in a small way only. For safety, these proteins need to be canned under steam pressure, and will be undertaken as people are willing to go to the expense of procuring steam-pressure canners. A good start has been made and plans are being mapped out to can fish-roe extensively in the coast counties.

Dr. Lund of the United States Department of Agriculture, States Relations Service, has been of invaluable aid to us in his instructions for the use of the steam-pressure canner and his fine recipes for canning meat and fish.

DRYING FRUITS AND VEGETABLES

This has been a year when every method of saving food products has been tried, and one of the most successful has been drying. Old-fashioned methods of drying have been revived and many bushels of sweet corn have been swung over an oven and satisfactorily dried for winter use.

Home-made and commercial dryers have each been tried with success. Many ingenious drying devices have come to stay, and, in consequence, a total of 557,853 pounds of fruits and vegetables have been reported dried from the fifty-eight counties.

Experimenting with many products has made us feel that it would be wise to put only a few on the market, that those might be standardized. Therefore, for the next year, for those desiring to sell dried products, we are advising the selection of corn, soup mixture, apples, and peaches only.

BRINING

When there is a big crop of cabbages and the market is glutted, requests for kraut recipes pour into our office. We have therefore given much attention to brining, and were very fortunate to secure the services of Dr. Lester Round from the United States Department of Agriculture, Bureau of Chemistry, for lectures and demonstrations in the making of kraut and the brining of cucumbers. Turning cabbages into kraut has proven an excellent method of saving them, and, as the market for this product is good, many requests for instruction have come from men wishing to go into it as a business venture. Brined vegetables to the amount of 288,568 gallons are reported from fifty-eight counties. Iredell, Guilford, and Wilson counties showed particularly large quantities of products brined.

I believe three-fourths of all the products saved this year are intended for the home tables; but the other two and a quarter million will find their way to the grocers' shelves.

MARKETING

Prices on canned goods ran riot in the fall of 1916 and during the following winter. From $1 and $1.10 per dozen tomatoes soared to $1.80 and $2. String beans increased 25 per cent, and kraut, sweet potatoes, soup mixture, and fruit all reach top-notch prices.

The previous summer had been a poor gardening season, and there was a great scarcity of canned products on the market. Instead of the club girl having to approach the merchant, he sent to her in many instances and made contracts for her entire output or for such as she could let him have.

Products were sold out early and by spring there were only a few cans left, and these had been held over for a still further increase in price.

Formerly, it took a little time to get a first-year county's club products on the market. They had to make their way rather slowly with the merchant; and if they were sold by the next June, we were quite satisfied. In 1917 anything bearing the 4-H brand was snapped up; and if the merchants in a first-year county hesitated, we had orders waiting in a neighboring one and were glad to know where to place them.

Several merchants offered to furnish cans last summer if certain club girls would let them have the 1917 output. Our policy is to sell in our own community, our own county, our own State; and we feel proud of the fine local trade that has been built up.

We have some orders for fancy products from New York State, but we find shipping so difficult and small shipments by freight so uncertain that we take these rather reluctantly. Our object in selling at home is to eliminate the packing and the trouble of shipping.

Many home merchants are willing to take the cans uncrated, and many of them have been induced to build a mammoth pyramid of these in a prominent place in the store, thus advertising our goods as well as relieving the local club girls of the necessity of crating. Last year when it was so difficult to obtain boxes or crates some merchants permitted us to ship to them in barrels.

Practically no complaints have been heard of the Canning Club products which have been put upon the market. The chef at the Yarborough House, one of our largest hotels, told the manager when he thought of buying another brand, "You can't afford not to get these tomatoes; there are as many in two of these cans as in three of the others."

With the many cans filled this summer by women canning for the first time under instruction, we have thought it unwise to permit the use of the 4-H label to any except regularly organized club members. These girls have worked for six years to standardize their products, and it is no more than fair that that standard should be guarded.

This is the brand that we are suggesting for these patriotic women who have not only provided for their own table, but have canned a few extra for the market: "The Home Defense Brand."

In Eastern North Carolina there was reported last September a large crop of pears, which seemed likely to go to waste. One of our District Agents got in touch with the Office of Markets and in a short while 1,135 bushels, aggregating $930.90, were sold in one county. Reports from other counties in the district have not yet come in.

The girls in Anson County, who have been for four or five years in the clubs and have been taught all phases of Canning Club work, from canning to the making of pickles, jellies, and preserves, have had a fine fancy trade in fig preserves. Orders have come in from winter residents of Pinehurst and the cottagers near by, many even from purchasers in the North. These figs are skinned before preserving and are beautifully transparent. They are packed in a slender cylindrical glass jar with much taste and skill, and I do not believe could be surpassed in beauty and flavor by any commercial pack.

At Christmas-time many of the advanced girls put fancy products on sale. Small, slender 4-ounce glasses of mint or scuppernong jelly made very popular gifts, and were retailed at 20 cents each. Sometimes these were placed in a small pine-needle basket, the pale green of the mint and the red amber of the scuppernong making a very attractive pack in the brown container. Our standard jar for sweets and pickles is the tall 12-ounce jar in which the figs

are packed, and a very popular package for Christmas is six of these filled with damson, fig, peach, cherry, pear, and strawberry preserves—or six of marmalades and jam. Another half-dozen is packed with chow-chow, Dixie relish, onion pickle, small cucumbers, sweet pickle peaches, and watermelon-rind sweet pickle.

A large club at Clement's Academy, Wake County, determined to make all it could from the advance in prices this year, and after bringing into Raleigh early in the fall enough cans to fill all the orders they had taken from schools and hotels, the girls decided to hold the balance for further price developments. Mr. Daniel, the father of two of the club girls, agreed to bring products into Raleigh for any of the club members, charging them only enough to pay for gasoline, and at the same time he would be looking about for orders. The girls listed all their products and turned the list over to him. The club has sold to date hundreds of cans of tomatoes, string beans, corn, etc., and received at least $1.80 per dozen for most of them.

In Sampson County last fall, when the prices of canned goods began to soar, the merchants offered the club girls more per dozen than the then prevailing price if they would keep them all for home trade, and not send one out of the county. This county is now planning a marketing organization which includes both the Farmers' Union and the club girls and women.

From the very first we preached, *Standardize, standardize, standardize*, and we are beginning to reap the reward in the grade of the products and the approval of the purchaser.

In Guilford County last year it was rather difficult to get club products in the grocery stores, the merchants saying they preferred something they knew more about, and that they were much afraid of home-canned stuff. The little agent, strong in the knowledge that either she or her club supervisor had seen everything that was put into a can by the club girls the summer before, asked the assistance of the Chamber of Commerce and the Farm Bureau in getting a committee of grocerymen to examine her products.

A meeting was arranged and six cans of tomatoes were selected; four from the best commercial brands sold in the town and two from a pile of several hundred club cans in the agent's office. Two disinterested persons poured the contents of the cans into separate glass bowls, numbering each bowl and keeping a record of the brands. When the committee of grocers was called to select the best the unanimous first and second choice of bowls held Canning Club tomatoes, the commercial brands coming third, fourth, etc.

This demonstration opened the eyes of the merchants, and after the girls put on a campaign for securing orders from housewives through the grocers and demonstrated publicly the delicious dishes that might be made from their products, they had no trouble in disposing of every can.

Girls are encouraged to sell their own products. The County Agent assists them to the best of her ability and is many times the recipient of orders which she wisely turns over to the girl and has her make the business deal direct with the merchant.

There are a few things that are "best sellers," and some which go so quickly it is hard to keep enough on hand to fill orders. Tomatoes are always standbys, but the by-product of the tomato patch—soup mixture—has so far been the most popular pack the Canning Clubs have put before the public. Using only the fine, red tomatoes in canning an extra standard pack, there are many small ones which must not be wasted and which may be combined with other vegetables in a most delectable product.

This soup mixture is made of tomatoes, corn, and okra. One of our girls went to a grocer when we were first putting it upon the market to see if she could place an order with him. When she told him what was in the mixture he exclaimed, "Only three things? Why the soup mixture we sell contains ten!" "Yes," said she, "that is just why ours is so much better. We put into the can the things which would be expensive to buy in the winter and depend upon our pantries to supply the potatoes, turnips, cabbage, onion, etc., which we might wish to add to the soup pot. There is no reason that I can see for canning these cheap things which can be had all winter at the market."

FAIRS

The one hundred and fifty-nine community fairs held in the State in the fall of 1917 showed the effect of the Home Demonstration Agents' work in a county, and were the direct results of her efforts in conjunction with the work of the Farm Demonstration Agents.

These fairs brought the community people together in one common interest and gave them an opportunity of displaying the fruits of the year's work. Every woman was encouraged to exhibit her best efforts, and trained agents were sent out by the Home Demonstration Department to act as judges.

These judges were instructed to use score-cards in judging and to make all decisions before the public, that the people might know why prizes were awarded and just why other exhibits failed to make a good score.

Conservation was the key-note of all fair programs, and at every community fair where it was possible some of the following demonstrations were carried on:

Bread-making with flour substitutes,
How to serve an appetizing meatless dinner,
Cooking with vegetable fats,
What to do with left-overs.

Convenient kitchens were fitted out showing the housewife how to arrange furniture that she might save steps.

Gaston and Mecklenburg counties each held twelve community fairs; Anson eight; Catawba six; and Sampson, Stanly, and McDowell reported five each.

We believe there does not exist a better school of comparison than the community, county, or State fair; and it is our purpose to lend our aid in any way that will make these fairs more efficient schools for the public.

The best exhibits at the community fairs are sent to the county fairs, and from there a selected number go to the State Fair.

There were thirty-three county fairs held in North Carolina this year, eight district, and twelve negro fairs.

The programs put on at the community fairs are carried out in an enlarged way at the county fairs, and are still further enlarged at the State Fair.

Three years ago the exhibit the Canning Clubs sent to the State Fair was assigned a place in Machinery Hall, along with the plowshares and pruning hooks. In the fall of 1917 we have risen to the dignity of a fine new building, four-fifths of which was turned over to the work of the Home Demonstration Division. Twenty-six of our trained agents were brought to Raleigh and were assigned to give demonstrations in booths planned to outline our activities in the home and in the garden.

The center of the building down its whole length was given to the exhibit of canned products in glass from forty counties, each county exhibiting thirty-six containers. These were arranged on uniform pyramids and showed the training of the club members in grading and packing. One of these exhibits was sold to the Seaboard Air Line to be sent to its general office for a permanent exhibit; one to the North Carolina State Museum; and one to the Office of Extension at Washington. Several grocers bought exhibits for their windows.

The sweepstakes prize was won by the Forsyth County exhibit. The prize for the best second-year exhibit by Lincoln County, and the prize for the best first-year exhibit by Lenoir County. There were many other prizes given for products exhibited in different classes.

Around the side walls of the building were the activity booths.

The big food booth bore the sign, "Waste Means Defeat; Conservation, Victory." Here the housewife was shown how to balance meals, how to stretch the purchasing power of a dollar, and how to make appetizing the substitute for meat and wheat.

Our own soy-bean and cotton-seed meals were demonstrated as good nourishing foods when combined properly with flour or shorts.

War recipes were compiled by our food specialist and distributed. A convenient kitchen with home-made furniture stood near the food booth.

On the other side was a dairy booth where two agents made cottage and cream cheese and showed how they could be fashioned into tempting dishes. These lessons in cheese-making have been the means of placing cottage cheese made by club women on the city markets.

A "laundry booth" was run entirely by Delco power, showing the country housewife how she could do her washing, wringing, and ironing by electricity and save both time and labor.

A "home sewing booth" showed how to turn old clothes into new. There were old coat suits masquerading as modish dresses, and old dresses uniting themselves to other old dresses demonstrated the wonderful results of co-operation.

A baby booth contained comfortable clothing for children, and many conveniences were shown for taking care of the little ones.

The jelly booth bore the mottoes, "Scientific Jelly Making" and "Test Your Juices and Use Less Sugar."

In another booth one read, "Install Home Conveniences and Save Your Wife's Back and Temper."

The drying booth contained home-made as well as commercial dryers, and drying in the oven was carried on as successfully as in either of the special dryers. The exhibits of dried products were most interesting.

In the canning booth the use of the steam-pressure canner was demonstrated and fish and meat were canned. How to grade and pack vegetables and fruit for market was also demonstrated.

An old-fashioned loom was installed in the weaving booth and demonstrations in weaving rag rugs given. Many artistically woven pieces were shown also.

Baskets from North Carolina pine needles, honeysuckle, willow, oak slips, and many other home products, were shown in one booth, and the how and why explained.

I have dwelt rather at length on the demonstrations at the fairs, as I think they give a clear idea of just what our supervisors are trying to bring before the people in the demonstrations they are giving all over the State, as they go out in their daily visits to the rural communities.

SHORT COURSE AND CONFERENCE FOR AGENTS

From June 4th to June 16th a short course and conference for county agents was held at the State College of Agriculture and Engineering in Raleigh.

Sixty agents were present, and sub-agents and women expecting to take up the work swelled the number to one hundred.

The following courses were given:

Canning in tin and in glass
- Hot-water canner
- Steam-pressure canner

Preserving and jelly-making
Drying
Brining
Dairying
Gardening
Household chemistry
Studies in dietetics
Wheat and meat substitutes
- Peas
- Beans
- Soy-bean meal
- Cotton-seed meal
- Peanuts
- Corn meal

War-time cookery
The art of demonstrating.

The length of time will be extended to four weeks in 1918.

FARM WOMEN'S CONVENTION

A Farm Women's Convention was held at the State College of Agriculture and Engineering from August 22d to 30th, inclusive.

There were three hundred and fifty women who attended this convention. Two hundred and fifty of these women came from the rural districts and two hundred of them were entertained at the College.

The entire three days program was along conservation lines, and was conducted by the Home Demonstration forces. The war breads were very popular demonstrations, and the making of cottage and cream cheeses was enthusiastically received by women who had not known how to turn their surplus milk into such delectable products. Troubles in canning were discussed and remedies proposed.

Dr. Lund gave his fine lessons in the canning of meat and fish, and Dr. Round the kraut and dill pickle demonstrations.

This convention is held every year, and steadily mounts in interest.

The Farmers' Convention is held at the same time, and the joint meetings bring out some fine coöperation of men and women in advancing the Agricultural and Home Economics interests of the State.

THE FOOD ADMINISTRATION

When the Governor of North Carolina appointed a State Food Commission last spring we were proud to be represented.

His policy was to appoint the head of the Home Demonstration Work on the Central Board and each county home demonstration agent on the different county boards.

These agents, working with the chairman, the Farm Demonstration Agents, and other members, put on campaigns to arouse the people to the necessity of producing food and feed stuff and also of saving the perishables by canning, drying, etc.

The report in the preceding paragraphs of this bulletin records the results of the work.

Later, when Mr. Hoover appointed me State Director of Home Economics under the State Food Administrator, I lined up all the county agents with

FIG. 2. Demonstration in home conveniences.

similar positions in their counties, and we proceeded to carry out plans of the administration and evolve plans of our own, particularly for the economical use of certain pantry supplies.

The coöperation of the Home Economics women in the schools and colleges was solicited, and at a meeting of the Agricultural and Home Economics Department of the State Teachers' Assembly fine plans of coöperation were given and also reports of just what had been done in the saving of wheat, meat, fats, and sugar by the college girls. Such subjects as these were discussed: "How the High School Economics Teacher Can Forward the Food Administration's Plan of Conservation," "How the College Girls Help Hoover," and "The Possibility of Putting on a Weekly Conservation Program in Each High School."

The Council of the State Federation of Women's Clubs voted approval of the plans to introduce conservation programs into the clubs, and voted their support of the city home demonstration agents appointed to push the emergency program.

We have asked all women's clubs to substitute "Ten Lessons On Food Conservation," or some other food program, for the one already arranged for the year, and have had marked success.

The Fortnightly Review Book Club of Raleigh made the substitution enthusiastically and we were much pleased to see the ingenuity of the members in carrying out the part assigned them.

One of the club members, at the November meeting, gave a talk on the food restrictions in the homes of our allies and just how little we were doing in voluntary rationing. Each woman was asked to make a record of just what was eaten by the family in one week and how many meatless and wheatless meals were served.

A most striking and interesting demonstration was given by measuring out the 28 ounces of fat consumed per person per week in the United States against the 5½ ounces of the German and the 11 ounces that would be sufficient per week for the normal person. Of sugar, she showed the level tablespoonful per day of the Englishman to the ¼ of a pound per day of the American. This demonstration was repeated at a Rotary luncheon, and it showed so clearly the need for retrenchment that we have been asked to make demonstrations at several schools.

Every county agent will be given the data and asked to make a like demonstration in her different communities.

The women of North Carolina are responding to the conservation call and are asking for definite information as to amounts that they may ration their families intelligently.

I cannot report any special feature of our year's progress in food administration work. When the need for special conservation came, our whole efforts were turned into that channel and our heartiest support and coöperation given to the Administration in all that it asked for or in all that we could in any way devise.

SURVEYS

The Food Administration called upon our organization on August 31st to make a survey of the food supply on hand in rural and city homes. This survey was undertaken in different counties by eighteen Home Demonstration Agents in coöperation with the Farm Demonstration Agents.

In three cities with populations of 25,000 and over the Home Demonstration Agents secured forty-eight reports out of seventy-eight asked for. In towns of 1,000 and over, 301 reports were turned in out of a possible 375, making a total of 349 reports out of 453 asked for.

A similar survey is now being arranged for December 31st, when the Home Demonstration Agents will ask for 600 reports and the Farm Demonstration Agents 900.

THE DISTRICT AGENT

In September the State was divided into four districts and three district agents appointed to begin in October. The fourth will begin work some time after January 1st.

Miss Lizzie Roddick was given the Eastern District, Miss Laura Wingfield the Central, and Mrs. J. H. Henley the unorganized counties. The Western District is to have the fourth agent.

These women by their training and their fine work as county agents are expected to prove themselves invaluable in the supervision of work in a larger field.

THE CITY AGENT

With the appropriation of emergency funds for city work came the employment of city agents, and in October a Home Demonstration Supervisor of Raleigh and Durham jointly, Wilmington, Winston-Salem, and Asheville was appointed.

Three of these women began work the first part of November and Winston-Salem's agent comes in the first part of January.

Agents for Greensboro, Charlotte, and New Bern are now contemplated.

These women have secured the coöperation of practically all of the women's organizations in the cities, have allied themselves with chambers of commerce, and are rounding up the women in a special program of food conservation.

We feel that the present need is the saving of fats, wheat, meat, and sugar, and it is to this end that the city forces are definitely organized. It is too early to give reports on work accomplished, but when one city, Winston-Salem, is so much interested that it will appropriate $1,100, in addition to the appropriation made by this office, for the employment of a thoroughly equipped leader, it shows what the cities are thinking of the importance of the movement.

We are expecting to get fine coöperation of town and country, since our policy is to make the city agent an assistant to the county agent, thus harmonizing every movement of food production in North Carolina.

WOMEN'S WORK

While the special program of producing and saving food has been going on, we have not neglected plans for saving the housewife herself. Eight thousand six hundred and seven of them have been brought together in clubs, not only for social intercourse, but that they might learn better methods of caring for the children and the home and more business-like plans for the spending of the family income.

One thousand two hundred and thirty-three fireless cookers have been made, 565 iceless refrigerators, 2,463 fly-traps, 1,888 fly screens, and 5,631 other miscellaneous household articles. They installed 439 systems of water-works in their rural homes, and 13 community buildings were secured as permanent community centers and meeting places. They have also planted, together with the club girls, 4,918 winter gardens—a remarkable thing in view of the fact that only 60 were recorded last year.

OTHER WORK OF THE CLUB GIRLS

Besides the canning and cooking recorded by the club girls, 4,292 articles, such as dresses, caps, and aprons, were made.

STAFF OF WORKERS

The staff of workers in the Home Demonstration Division consists of a State agent, an assistant specializing in foods, four district agents, a clerk, a stenographer, five city agents, and sixty county agents.

MILES TRAVELED, LETTERS WRITTEN, ETC.

The workers mentioned above have, during the year just ended, traveled 219,740 miles; written 44,000 letters; mailed 90,460 bulletins; held 6,070 meetings with an attendance of 282,805; had 42,270 conferences; and given 7,800 demonstrations.

The following statistics of Home Demonstration Work with organized clubs and in an Emergency Program with other women of North Carolina will be of interest:

Containers filled by organized club members	3,289,415
By outside women and girls (under War-time Emergency)	5,688,847
Total	8,978 262
Total products brined—gallons	228 568
Total products dried—pounds	557,853
Total money value of products	$ 2,179,362
Total cost	$ 544,843
Total profit	$ 1,634,519

SUMMARY OF CANNING FOR A PERIOD OF SIX YEARS, 1912-1917.

Year	Number Counties Organized	Number Girls Reporting	Number Cans and Jars	Value of Products	Total Cost	Total Profits
1912	14	229	33,019	$ 3,301	$ 825	$ 2,476
1913	14	235	70,000	7,000	1,750	5,250
1914	32	814	259,019	35,361	9,425	25,935
1915	37	2,386	633,447	104,241	28,985	75,256
1916	44	3,453	680,551	117,816	29,432	88,383
Totals		7,117	1,676,036	267,719	70,417	197,300

1912
1913
1914
1915
1916
1917—Profits are $1,634,519.

COUNTIES	Enrollment*	Containers—Tin and Glass			Number Pounds Fruit and Vegetables Dried		
		Organized Clubs	Emergency Work	Total	Organized Clubs	Emergency Work	Total
Alamance	147	28,777	169,648	198,425	2,000	5,000	7,000
Anson	650	233,640	145,000	378,640	50,000	4,000	54,000
Avery	56	500	10,496	10,996		1,000	1,000
Beaufort†							
Bertie	400	42,930	45,800	88,730	10,300	800	11,100
Brunswick	61	4,642	70,000	74,642	570	150	720
Buncombe	420	36,889	700,000	736,889	300	3,000	3,300
Catawba	168	115,603	160,000	275,603	900	1,000	1,900
Cherokee	38	16,900	10,000	26,900			
Chowan	176	28,985	14,000	42,985	300	200	500
Cleveland	436	26,826	165,000	191,826	740	2,000	2,740
Columbus	795	12,266	80,000	92,266	2,500	3,000	5,500
Craven	270	4,297	77,000	81,297	1,000	50	1,050
Cumberland	180	22,705	52,000	74,705	630	3,000	3,630
Davidson	270	23,394	560,000	583,394	1,400	1,400	2,800
Duplin	237	18,990	25,650	44,640	100	600	700
Durham	504	138,694	102,500	241,194	21,600	1,000	22,600
Edgecombe	381	127,944	108,000	235,944	600	810	1,410
Forsyth	455	205,724	10,275	215,999			
Franklin	270	37,875	45,956	83,831	3,747	25	3,772
Gaston	135	53,050	10,000	63,050	5,000	6,000	11,000
Granville	220	41,759	176,000	217,759	1,500	1,500	3,000
Greene	15	25,350	9,000	34,350	375	375	750
Guilford	208	79,036	50,000	129,036	15,000	15,000	30,000
Halifax	133	51,929	22,000	73,929	300	600	900
Iredell	283	45,668	329,840	375,508	4,020	60,000	64,020
Johnston	145	35,178	161,622	196,800	500	24,000	24,500
Lee	103	22,733	63,434	86,167		8,000	8,000
Lenoir	116	23,347	4,200	27,547			
Lincoln	285	259,810	15,000	274,810	3,000		3,000
Macon†							
Madison	95	17,844	11,500	29,344			
Mecklenburg	389	108,131	350,000	458,131	8,900	25,000	33,900
Montgomery	175	31,350	1,000	32,350	760	500	1,260
Moore	438	217,418	3,000	220,418	300	250	550
Nash	257	68,298	50,000	118,298	390	650	1,040
New Hanover	600	90,425	175,000	265,425	750	1,500	2,250
Northampton	223	55,515	77,000	132,515	1,720	25,000	26,720
Orange	217	22,786	78,000	100,786	300	1,000	1,300
Pasquotank	357	29,588	2,000	31,588	3,200	300	3,500
Pender	253	46,642	15,000	61,642	800	1,000	1,800
Perquimans	40	4,752	1,075	5,827	840		840
Person	82	12,100	15,000	27,100	1,500	300	1,800
Pitt	70	26,012	60,000	86,012	2,000	4,000	6,000
Randolph			15,000	15,000		10,000	10,000
Richmond	151	95,967	2,000	97,967	750	225	975
Robeson	50	5,000	200,000	205,000		10,000	10,000
Rowan	55	14,258	177,000	191,258	7,475	500	5,975
Sampson	197	106,336	13,000	119,336	500	100	600
Stanly	46	17,918	34,491	52,409	58	3,000	3,058
Surry	179	18,460	120,750	139,210	5,370	37,800	43,170
Swain	95	56,249	50,000	106,249	7,500	6,000	13,500
Union	160	85,007	8,000	93,007	520	3,000	3,520
Vance	135	79,300	30,000	109,300	4,500	10,000	14,500
Wake	420	82,300	83,000	165,300	46,900	12,000	58,900

Counties	Enrollment*	Containers—Tin and Glass			Number Pounds Fruit and Vegetables Dried		
		Organized Clubs	Emergency Work	Total	Organized Clubs	Emergency Work	Total
Warren	180	48,900	33,550	82,450	1,100	1,100	2,200
Washington	400	18,783	5,010	23,793	195	150	345
Wayne	597	45,585	125,000	170,585	1,258	1,000	2,258
Wilkes	782	71,153	5,000	76,153	10,000	5,000	15,000
Wilson	182	47,897	356,050	403,947	2,000	20,000	22,000
Totals	14,382	3,289,415	5,488,847	8,778,262	235,969	321,885	557,853

*This includes both women and girls in the Home Demonstration Clubs and Canning Clubs respectively.

†No report.

COUNTIES	Number Gallons Vegetables Brined			Money Value of Total Products	Cost of Total Products	Profit from Total Products
	Organized	Emergency	Total			
Alamance		1,000	1,000	$ 31,390.10	$ 7,847.55	$ 23,542.55
Anson	5,400	5,400	10,800	60,071.00	15,017.75	45,053.25
Avery		6,050	6,050	4,281.30	1,070.35	3,210.95
Beaufort*						
Bertie	10,208	1,775	11,983	25,109.20	6,276.85	18,832.35
Brunswick	153	300	453	16,034.32	4,008.58	12,025.74
Buncombe	60	300	360	154,522.30	38,630.55	115,891.75
Catawba	5,000	15,000	20,000	55,936.20	13,984.05	41,952.15
Cherokee				6,080.00	1,520.00	4,560.00
Chowan	40	100	140	10,089.83	2,522.45	7,567.38
Cleveland	120	200	320	45,100.47	11,275.10	33,825.37
Columbus	200	500	700	20,149.50	5,037.35	15,112.15
Craven	50	50	100	17,832.16	4,455.54	13,376.62
Cumberland	1,500	2,000	3,500	25,124.33	6,281.08	18,843.25
Davidson	1,500	1,500	3,000	118,027.00	29,505.50	88,521.50
Duplin	15	12	27	15,143.80	3,785.95	11,357.85
Durham	1,500	1,600	3,100	68,904.67	17,226.15	51,678.52
Edgecombe	200	465	665	73,137.50	18,284.35	54,853.15
Forsyth				53,951.30	13,487.85	40,463.45
Franklin	656		656	21,791.70	5,447.95	16,343.75
Gaston	5,000	7,000	12,000	31,277.50	7,817.35	23,460.15
Granville	400	600	1,000	38,854.90	9,713.75	29,141.15
Greene	200	100	300	10,731.20	2,682.80	8,048.40
Guilford	500	500	1,000	33,286.60	8,321.65	24,964.95
Halifax	200	300	500	19,844.85	4,961.20	14,883.65
Iredell	6,817	13,244	20,061	99,920.90	24,980.25	74,940.65
Johnston	6,800	7,148	13,948	54,900.85	13,725.20	41,175.65
Lee		2,000	2,000	18,938.55	4,734.65	14,203.90
Lenoir				6,295.90	1,573.95	4,721.95
Lincoln	100		100	57,464.00	14,366.00	43,098.00
Macon*						
Madison		200	200	6,516.95	1,629.25	4,887.70
Mecklenburg	3,000	15,000	18,000	102,753.00	25,688.00	77,065.00
Montgomery	850	800	1,650	7,432.00	1,858.00	5,574.00
Moore	10,000	6,000	16,000	47,394.00	11,849.00	35,545.00
Nash	75	200	275	23,784.00	5,946.00	17,838.00
New Hanover	600	2,500	3,100	81,934.45	20,483.60	61,450.85
Northampton	505	505	1,010	36,629.55	9,157.35	27,472.20
Orange	200	65	265	23,335.80	5,838.95	17,496.85
Pasquotank	500		500	8,921.35	2,230.35	6,691.00
Pender	50	100	150	12,148.15	3,037.05	9,111.10
Perquimans	75	45	120	1,579.15	394.75	1,184.40
Person	100	300	400	6,678.00	1,674.00	5,004.00
Pitt	3,690	5,000	8,690	20,596.90	5,149.25	15,447.65
Randolph		500	500	4,575.00	1.143.00	3,432.00
Richmond	75		75	28,807.80	7,201.95	21,605.85
Robeson		2,720	2,720	42,158.00	10,539.50	31,618.50
Rowan	2,500	30,000	32,500	53,972.90	13,493.25	40,479.65
Sampson	300	500	800	46,232.65	11,558.15	34,674.50
Stanly	2,700	5.600	8,300	12,328.80	3,082.20	9,246.60
Surry	225	27,000	27,225	42,423.05	10,605.75	31,817.30
Swain		3,500	3,500	34,392.80	8,598.20	25,794.60
Union	120	240	360	21,632.90	5,408.25	16,224.65
Vance	1,350	1,000	2,350	34,825.00	8,706.25	26,118.75
Wake	1,000	10,000	11,000	65,400.00	16,350.00	49,050.00

Counties	Number Gallons Vegetables Brined			Money Value of Total Products	Cost of Total Products	Profit from Total Products
	Organized	Emergency	Total			
Warren	80	80	160	$ 24,095.95	$ 6,023.95	$ 18,072.00
Washington	300	150	450	9,423.85	2,355.95	7,067.90
Wayne	865	2,640	3,505	48,658.20	12,164.55	36,493.65
Wilkes	5,000	5,000	10,000	26,833.50	6,708.35	20,125.15
Wilson	1,000	20,000	21,000	109,706.95	27,426.75	82,280.20
Totals	81,779	206,789	288,568	2,179,362.58	544,843 35	1,634,519.23

*No report.

Respectfully submitted,

Jane S. McKimmon,
State Agent, Home Demonstration Work.

REPORT ON BOYS' AGRICULTURAL CLUB

To the Director:

Since our last annual report, time has wrought many changes in the conditions under which we live and labor, requiring in most cases a change of plans in living and laboring. Because of the world war, our Nation has been brought face to face with the importance of maximum production and intelligent conservation, with the result that all the forces of the Government are being utilized to meet this crucial condition. The Extension Service, through its organized channels, has furnished the best possible vehicle for quickly disseminating information and securing much-needed data.

The Agricultural Club organization has by no means shirked its responsibility, nor has it been ignored by the authorities as an important part of the Extension Service. An emergency club agent has been employed to promote the production of more small grain, through the organization of wheat and oat clubs and further to aid in the advancement of all club work. For this important duty Mr. William Kerr Scott, a graduate of the State College of Agriculture and Engineering, was selected. Mr. Scott has entered upon his duties with zeal and enthusiasm and has been able to make his services felt by the people of the sections visited.

Because of the recognized economic value of the hog in increasing America's supply of meat and fat, a determined effort is being made to increase the production of hogs in North Carolina. Consistent with this demand, two emergency swine extension men have been put on in the State. For this work Mr. J. C. Anthony of the Mississippi Agricultural College and Mr. W. W. Shay, a native North Carolinian and quite a prominent swine breeder, have been selected. These men are to work under the direct supervision of Mr. J. E. Moses, State Pig Club Agent, whose duties have been enlarged to include all swine extension work conducted by the Extension Service. All these men will devote their attention to the promotion of the swine work of the State, both among boys and adults.

ORGANIZATION

The organization of the club work is practically the same as for 1916, with the exception of the enlarged duties of Mr. Moses, referred to above, the additional responsibility placed upon Mr. A. K. Robertson, because of the resignation of Mr. S. G. Rubinow, and the number of men added to the force because of the increased demands upon the office.

The efforts toward forming definite club organizations among the members of the various clubs has not met with the success anticipated, on account of the badly scattered membership and the difficulty of getting the members to meet during the summer, when school is not in session. There were formed during the spring of 1917 quite a number of community club organizations, and some of these clubs have continued to meet throughout the year. Programs were made out and mailed to the county agents for use in these organized clubs, and letters of instruction mailed to the members and to the secretaries of each club. As far as possible, representatives of this office attended the meetings and helped with the program.

The members of the poultry clubs are more thoroughly organized than any other members, but even these seldom meet except when the County Agent or the State Poultry Club Agent, Mr. Oliver, meets with them.

It is still our hope and purpose to develop the community unit plan of club organization, and to that end we have provided a space on the enrollment card for each member to designate the school he attends, in order that we may group the members around the public schools as centers. We still feel that through the rural school we can the more easily get in touch with the boys and girls, and have prepared a circular letter, with a blank for names, to be sent to every public school in the State, by the County Agent. We have adopted the plan of having the names returned to the County Agent, rather than to this office, in order that he may promptly get in touch in any way possible with those desiring to become members. We believe this plan has the added advantage of making the County Agent feel greater responsibility for the enrollment, and also will make the boys look more to the County Agent for leadership and instruction. This can the more easily be done now than heretofore because of the fact that there is a county demonstration agent in practically every county in the State.

An encouraging fact in connection with the club work is that we find our club members actively identified with the various movements for the develop-

Fig. 3. Members of Boys' Agricultural Clubs attending Short Course at College of Agriculture.

ment of rural life. Through the club work they are made to feel that they are really a part of the community, and through the community clubs they learn to participate in the meetings and discussions. It has frequently developed that some boy or girl who has been a club member for a few years was the moving spirit in getting up a community fair, a consolidated school election, or some other movement for the development of rural North Carolina.

Not only does the club work deserve a large place in the stimulation of larger production and better community spirit, but many a boy receives personal inspiration which means more in his own life than can be valued. They have been touched by the suffering condition among the peoples of foreign countries, and in response to a letter sent them several weeks ago, urging them to help conserve, and in every way to do their part to win the war, some very appealing letters have reached this office, expressing a determination to increase their efforts the coming year.

One little boy in Craven County wrote that his father had been sick most of the year, his mother an invalid, and he had most of the work to do, yet he

was going to plant an acre of corn, 1/8 of an acre of potatoes, and that he had his acre of wheat sown. He said he wanted to do all he could to help feed our soldiers and our Allies, although they had been living about as close as they could.

The attitude of county superintendents of education and public school teachers throughout the State is good, and without their support we could not have secured the enrollment we have. Representatives of the club office have been invited to attend the teachers' meetings in a majority of the counties and have been given a cordial reception. The teachers of the State, however, are called upon to do so many extra things, and the county superintendents have so many special duties to take up with them at these meetings, that we have been able to get little more than the list of names requested from the teachers, and those from only the teachers who are interested in the work. Too often the work is presented to the school in such a "lackadaisical" way by the teachers that it makes no impression upon the boys.

The attitude of the majority of the county agents is excellent. Of course, there are some who do absolutely nothing in club work. But in most cases they seem interested, and at the meetings promise support. When they get back on the job, however, they are so overwhelmed by the numerous duties thrust upon them that they forget the club work till a representative of our office calls upon them, when they admit that they have not had one bit of time to devote to club work. In Stanly County, Agent Lentz gives most loyal support and has been accorded first place for two years in number enrolled, number reports received, and short course honors.

In a number of counties the closest coöperation exists between county farm and home demonstration agents and county superintendent, in which case we get results. Conspicuous among such counties is the county of Wayne, where the officials named above secure the assistance of a representative from the club office and in a whirlwind campaign visit practically every school in the county in the interest of enrolling club members; then again for organization purposes, the giving of instructions, and securing reports. Such methods invariably get results.

The greatest obstacles to the success of club work in North Carolina are:

1. Indifference of parents and their unwillingness to give the boy or girl a fair chance in sharing in results of their club work.

2. The lack of specific, constant supervision by some one who is not already overburdened.

3. The difficulty the children find in carrying out requirements as to keeping records and making measurements, under the present short labor conditions and high prices paid for the so-called money crops. The parents are forced to use the boy in the general crop practically every minute he is not in school.

The State Club Agent, because of the small amount of time he is employed to devote to club work, has been able to do little more than look after the general administrative end of the work, attend public meetings throughout the State, visit community, county, and State fairs, where he has spoken in the interest of the work and judged club and farm crop exhibits.

Mr. A. K. Robertson, assisted by Mr. William Kerr Scott, since he came into the work, has worked untiringly for the development of the farm crops club in the State. In the beginning of the enrollment period we let it be understood that we wanted only those who would agree to follow instructions and make a report. Consequently, the enrollment was not quite so good as

for 1916. When we entered the world war we tried to increase our enrollment by reducing our requirements as to reports, but the information had already gone forth, and we succeeded in enrolling very few emergency members.

Because of the disorganized conditions of the country, the scarcity of labor, the unprecedented bad weather in December, at the time a large number of the boys had intended gathering corn (their time in October and November necessarily being devoted to gathering and marketing the high-priced cotton and tobacco), the number of reports received has been considerably reduced. There has been very little weather since the first of Decembr which permitted of harvesting corn. Consequently, there are thousands of bushels of corn grown by club members yet in the field. We feel confident that of the 2,866 boys in the corn clubs, 2,500 grew corn.

From the reports received, the following interesting information has been tabulated by Mr. Robertson, showing how the boys used the money obtained from the sale of 1916 crops:

"Spent or will spend in educating self; banked it; bought pure-bred calf; bought colt; bought horse (partly); bought and fed pig or hog; fed to beef cattle; fed to horse; bought clothes and other necessary articles; holding crop; bought Liberty Loan Bond; bought War Savings Stamps; father kept; sold to father; invested in live stock."

In Stanly County, which has the largest enrollment, and also returned the largest number of reports, 75 per cent of the members used a recognized pure-bred variety of corn.

At the State Fair, held at Raleigh, a Corn Club member had the sweepstakes exhibit of corn, thereby winning a beautiful silver trophy cup. At many of the county fairs this same honor was claimed by a club member, also at the Coastal Plain Fair.

The enrollment in other crop clubs than corn is very small, because there has been no special agent employed to look after this work. There were two hundred and twenty-five members of the cotton, peanut, and bean clubs, but only seven reports have been received. The four Cotton Club members report a total yield of 3,652 pounds of seed cotton at a profit of $229.05 on four acres The three Peanut Club members reporting produced 140 bushels upon the three acres at a net profit of $212.03, not counting the hay.

In the Potato Club the results have been more encouraging. Mr. S. G. Rubinow, who was with the office last spring, devoted considerable time to this club, with the result that 342 members joined. The Potato Club members made a very creditable exhibit at the State Fair, Yancey County, alone, sending nine individual exhibits.

Total number of boys enrolled in the Potato Club in the State	295
Total number of boys reporting in the State	15
Total number of bushels of potatoes reported in the State	505
Total cost	$ 178.71
Average cost per bushel	35.4
Average number of bushels per 1/8 acre	33.6

Statistical Report of Corn Club Work for 1917

Total enrollment	2,866
Total number reporting	650
Total number bushels produced	38,583.9
Average number bushels produced per acre	59.3
Total cost (including $5 rent per acre)	$ 14,536.10
Average cost per bushel	36.3
Total value (corn at $1.50 per bu.)	$ 57,875.85
Net profit	$ 43,338.75

In addition to the above reports received, the county agents in the following counties have given conservative estimates of the yields with which they were familiar and which are as yet unharvested:

	Acres	*Total Yield, Bushels*	*Average Bushels Per Acre*
Alamance	7	310	44 3/7
Anson	30	1,393	46 2/5
Buncombe	56	3,395	60 4/10
Chatham	5	240	48
Hoke	13	611	47
Martin	28	1,601	57
Mecklenburg	9	435	48 1/3
Nash	41	1,996	48 7/10
Scotland	4	180	45
Stanly	80	3,455	43 1/5
Surry	2	215	107 1/2
Wake	66	2,385	36 1/10
Total	341	16,216	57 1/2

The value of the corn, estimated, at $1.50 per bushel, is $24,324. Forty per cent of the members reporting used a recognized pure-bred variety of corn; 43.5 per cent of members reporting selected seed corn in the field for 1918 planting; 30 per cent of members reporting have a growing winter cover crop.

PIG CLUB WORK

Practically the same influences which have operated against securing reports from Corn Club members have affected the Pig Club work, and the number of reports received do not by any means represent the activities of Mr. Moses, the Pig Club Agent. Mr. Moses has succeeded in getting a large number of adults interested in better breeding stock, in addition to his work among club members. The support received from bankers and business men in aiding Pig Club members to secure pigs has been quite encouraging, approximately $7,500 having been loaned club members on their note, at 6 per cent interest, and on the endless chain plan.

At the fairs of the State, Pig Club members have been recognized for the high type of animals shown and have won, all told, approximately $800 in prizes.

The following is a more detailed record of results obtained from reports received from club members by Mr. Moses:

STATISTICAL REPORT

Total number of Pig Club members in State	1,865
Number sending in complete reports	250
Number sending in incomplete reports	77
Number of pigs in fattening phase, 50; initial value	$ 345.30
Number of pigs in breeding phase, 240; initial value	3,036.00
Sow and litter project:	
Number brood sows, 37; initial value	$ 2,415.00
Feeding project:	
Number pigs fattening phase, 50; final value	1,974.51
Number pigs breeding phase, 240; final value	12,403.20
Sow and litter project:	
Number brood sows, 37; final value	2,876.75
Number pigs sold, 135; value	1,504.65
Number pigs on hand, 114; value	1,513.50

Feeding project:
Number pigs fattening phase, 50; initial weight..... 1,940 lbs.
Number pigs breeding phase, 240; initial weight..... 11,496 lbs.
Sow and litter project:
Number brood sows, 37; initial weight..... 77,100 lbs.
Feeding project—fattening phase:
Number pigs, 50; final weight..... 10,750 lbs.
Feeding project—breeding phase:
Number pigs, 240; final weight..... 45,672 lbs.
Sow and litter project:
Number pigs sold..... 135
Number pigs on hand..... 114
Percentage registered or eligible to registry, 87; grades or scrubs, 13.
Number of pigs by breeds—Duroc-Jersey, 140; Berkshires, 96; Poland China, 36; Chester White, 11; Hampshire, 3.
Number shown in local contest, 15; county contest, 35; sectional contest, 32; State contest, 40.
Average profit per pig (not including prizes):
Feeding project—
Fattening phase: Number of pigs, 38—$20.64. Number of members, 38.
Breeding phase: Number of pigs, 134—$34.17. Number of members, 134.
Sow and litter project—
Brood sows (litters included), Number of sows, 16—$37.29. Number of members, 16.
Average profit per member using grazing or soiling corps, $35.62. Number of members, 70.
Average profit per member not using such crops, $30.06. Number of members, 30.
Average length of contest by phases: Feeding, 150; breeding, 150 days; sow and litter, 180.
Average rate of daily gain: breeding phase, .89 lb.
Average cost per pound of gain: breeding phase, 8.7c.
Average size of litters in sow and litter project: Farrowed, 7.7; raised, 7.2.

Poultry Club Work

The results of the Poultry Club work, under Mr. A. G. Oliver, Poultry Club Agent, have probably been more conspicuous than any other line of club work, for the reason that the children are interested in poultry and they can get quick returns for their efforts. Through the influence of the club members, pure-bred flocks are to be found on a large per cent of the farms in those counties where the work has been organized, and it is no uncommon thing to see the modern poultry house upon the farm, constructed according to plans submitted by Mr. Oliver, who has been untiring in his efforts to bring about those conditions which produce the most satisfactory results with the farm flock.

As heretofore, the Poultry Club Agent has emphasized the importance of the proper feeding and housing of the farm poultry and the proper sanitary precautions during the summer to insure strong, healthy birds. At this time, when food products are high, too much emphasis cannot be placed upon the production of poultry on every farm.

The results obtained by Poultry Club members at the various county, district, and the State fairs have been exceedingly creditable. The birds shown by the club members have won in open classes in competition with breeders. The total number of birds shown by club members at the various fairs was 864. The 238 club members exhibiting, showed, in addition, 126 dozen eggs at these fairs and won in cash prizes $467.25. There were shown at the various community fairs of the State 216 birds, 144 dozen eggs, and total prizes

were won amounting to $99. The above figures do not include the exhibits made by the club members at the annual poultry show in Wilson, January 1st to 4th, 1918, at which they won $68 in cash and two silver cups.

At the Wilson show one club member sold $200 worth of Rhode Island Reds and went home with more orders to fill. Another outstanding record made by a club member is that of Annie May Roberson of Newton, Catawba County, on her flock of Andelusians:

Eggs laid by 45 hens from January 1st to November 3d, 307 days, 526 dozen (or 6,312 eggs), sold for $98.05. Fifty dozen eggs set and used, $10. In 307 days the 45 hens laid 6,312 eggs, or an average of 153 plus eggs per hen. These hens had free range and were fed $21.50 worth of food. This gives an average profit per bird of $1.92. She states in her report that she got 187 dozen eggs from July 1st to November 3d, making an average of 17.8 per day during a period of 126 days.

One of the most commendable features of the club exhibit at the State Fair was the opportunity given the club members of Iredell and Catawba counties to send their exhibits to the fair in special club cars, the expenses of which were provided for by the business men's organization, commissioners, and boards of education of said counties. These special inducements were made possible through the earnest effort of Mr. Oliver, the Poultry Club Agent. But for these cars, the Pig Club exhibit at the fair would not have been at all in keeping with the occasion. The pigs exhibited from the counties taking advantage of this opportunity won in prizes at the State Fair, $151.50. This method of shipping the assembled club exhibits from the counties in special cars is an exceedingly commendable plan, and should be increased another year.

STATISTICAL REPORT

Number of organized clubs in counties	164
Number members in organized clubs	1,132
Number miscellaneous members	720
Total number Poultry Club members (white)	1,852
Total number of eggs set	41,613
Total number of chicks hatched	28,890
Total number of chicks raised	21,830

Summary of Poultry Club Work for Negro Members

Number of eggs produced	7,000
Number of eggs set	4,000
Number of chicks hatched	3,084
Number of chicks raised	2,700
Eggs sold (dozen)	250
Average price per dozen, 40 cents; value	$ 100
Average price per bird, 50 cents; value	1,300
Total value of birds and eggs	1,400

In addition to the above facts, reports show that 376 home-made brood coops were made, 151 new hen-houses, and 76 old houses remodeled. These figures only show in part the results obtained through the Poultry Club work, as the indirect results are invaluable.

REPORT OF FARM MAKERS' CLUB WORK AMONG THE NEGROES

The Farm Makers' Club Work among the negroes of the State, under the direction of J. D. Wray, assistant State Farm Makers' Club Agent, shows

considerable improvement over 1916, and the interest continues to grow. So urgent were the demands of the negroes for assistance in this line of Extension work that an assistant Farm Makers' Club Agent was appointed. L. E. Hall, formerly county farm demonstration agent for the negro race in Columbus County, was appointed to this position.

The Farm Makers' Club members made a creditable showing at the various negro fairs of the State. The sweepstakes prize on corn at the State Fair was won by a club member. Edgecombe County won the distinction of the largest total yield of corn by club members, viz., 922 bushels. Wake County has the distinction of growing the cheapest corn, 580½ bushels at 16 cents per bushel. The number of reports is necessarily small because of the fact that a great deal of the corn is still in the field. Only one Pig Club member has reported: weight of pig, 226 pounds; net profit, $97.10.

Fifty-one negro Poultry Club members have sent in reports, giving the following information:

Eggs laid, 7,000; eggs set, 4,000; eggs hatched, 3,084; chicks raised, 2,700 In addition to results given below, the club members produced several bales of cotton, 75 bushels of sweet potatoes, 21½ barrels of white potatoes, 50 bushels of peanuts, and a considerable quantity of vegetables.

The following statistics, submitted by J. D. Wray, show the results as indicated by the reports received. It is gratifying to note that approximately 50 per cent of the Corn Club boys among the negroes reported.

Total enrollment in various clubs	1,423
Total number enrolled in Corn Clubs	800
Total number enrolled in Poultry Clubs	600
Total number reporting on corn	413
Total number Poultry Club members reporting	51
Total number bushels of corn in complete reports	6,621.46
Total number bushels on incomplete reports	11,714
Total number bushels on additional reports received	2,900
Total number of bushels	21,235.46
Total value at $1.50 per bushel	$ 31,853.19
Value of poultry products reported	1,400.00
Average yield of corn per acre	51.4
Average cost per bushel	$ 25.5
Total cost of growing corn	5,392.7
Total profit on corn produced	26,461.12

5	boys made between	100	and 125	bushels of corn
2	boys made between	90	and 100	bushels of corn
7	boys made between	80	and 90	bushels of corn
8	boys made between	75	and 80	bushels of corn
6	boys made between	70	and 75	bushels of corn
19	boys made between	60	and 70	bushels of corn
48	boys made between	50	and 60	bushels of corn
24	boys made between	40	and 50	bushels of corn

The indirect influence of club work among the negroes has resulted in inducing a large number of farmers to use better seed and better methods, and thus grow much more corn than heretofore. It has also had the effect of interesting the adult farmers in securing further benefits of the Extension Service by raising funds to help employ county demonstration agents. We feel that this work has more than justified itself since its beginning.

Respectfully submitted, T. E. Browne,
State Club Agent.

REPORT OF DIVISION OF AGRONOMY

To the Director:

During the year the main activities of the Division of Agronomy along Extension lines have been in connection with community plan improvement work with farmers, farm-life schools, county agents, fair associations, and cotton oil mills. The work has progressed satisfactorily, and it is believed that much good has been accomplished.

INCREASING CROP YIELDS

Much effort has been given to the encouragement of growing large acreages of wheat, oats, and many other crops in the State, and to giving information as to how most economically to produce larger yields of these crops per acre. In response to our efforts, there was a material increase in the acreage of soy beans planted last spring. There is every indication now that the acreage planted to wheat and oats will be much larger this year than probably ever before in the history of the State.

A great deal of attention has been given to the encouragement of the growing and handling of different clovers, suitable for growth in different parts of the State and for different purposes, in such a way as to aid in building up our North Carolina soils. The greatest increase in all of the leguminous crops has seemingly been in soy beans, with velvet beans next and crimson clover third.

Posters encouraging the growth of wheat have been prepared, posted, and distributed throughout the State. It is felt that these have aided materially in the campaign to increase these crops.

WORK WITH FARM-LIFE SCHOOLS

In connection with many of the farm-life schools, demonstration experiments have been started on the types of soil prevailing on the farms connected with these schools. It is believed that this work will help us determine the plant-food requirements of the soils studied, and that the results secured will be of much value to the teachers of agriculture in these schools in their class work. Not only this, but such work should be an effective means of interesting the patrons of these schools in the work of the farm, as the lessons taught by the results should be of great value to many of them in their farming operations.

At the present time this work is being conducted in coöperation with the following schools of this type:

School	*County*
Pleasant Garden Farm-Life School	Guilford
China Grove Farm-Life School	Cabarrus
Lowe's Grove Farm-Life School	Durham
Parrish Agricultural High School	Durham
Red Oak Farm-Life School	Nash
Philadelphus Farm-Life School	Robeson
Sand Hill Farm-Life School	Moore
Jamestown High School	Guilford
Farm-Life School	Craven
Dallas Farm-Life School	Gaston
Wakelon High School	Wake

COMMUNITY COTTON-IMPROVEMENT WORK

During the past two years sixteen communities in eleven counties have received help in the selection and improvement of one variety of cotton for each community. In every case the Division of Agronomy has found a better yielding variety for the community than was being grown previously. Of the communities aided, seven have already adopted one good variety for the community, and in three of the seven communities one grower in each community is improving the best variety by plant-to-row selections.

The work has shown that a large portion of growers in the Coastal Plain section of the State are growing small-boll varieties which generally produce rather poor yields and a poor grade of lint. The varieties introduced by the Division have produced increased yields to the value of $10 to $30 or more per acre than the varieties that were generally grown in the different communities.

COÖPERATIVE CORN BREEDING WITH FARMERS

This work has consisted of actual corn-breeding demonstrations on the farms of a few growers who are particularly interested in the improvement of their strains of corn. During the past season the Division of Agronomy has coöperated with two growers in the selection of their corn.

As a result of two years selecting on the farm of W. L. Wyatt, near Raleigh, his variety of corn has been made to yield 8.76 bushels more on an average per acre, when planted on good land, than corn from the original stock.

As a result of three years selection work from Biggs' Seven-Ear-Corn on the farm of Holderness and Shook, near Tarboro, Mr. Shook stated that last year, from his own field trials, the selected seed produced corn that yielded six bushels more per acre than did corn from the original strain of seed.

In addition to the two coöperative breeding projects, help has been given to the County Agents who were starting similar work in their different counties.

BEST SOY BEANS FOR DIFFERENT SECTIONS

During the past season the Division of Agronomy of the Station has studied varieties of soy beans on seven of the test farms in order to determine the best yielding varieties for different sections of the State. At the Mountain farm the medium-early varieties, such as Haberlandt, Austin, Virginia, and Wilson Black, have given the best results. Haberlandt and Austin have produced the highest yields of seed, and Virginia and Wilson Black have given the best results for hay. At the Piedmont farm Mammoth Yellow, Tarheel Black, and Virginia yielded most seed, and Tarheel Black, Virginia, and Wilson Black the largest amounts of hay, while at the Edgecombe farm Mammoth Yellow, Tarheel Black, and Tokio produced the largest quantity of seed, and Virginia and Wilson Black the most hay.

BEST COWPEAS FOR DIFFERENT SECTIONS

During the past season fourteen varieties of cowpeas were grown in an experimental way in different sections of the State to determine their comparative yields of seed and hay, when grown under the different conditions. At seven of the test farms the varieties have been compared with each other, and with soy beans also, for hay and seed production. When planted in rows,

the soy beans have produced more hay and seed than have the cowpeas; but when planted broadcast for hay, the cowpeas have generally outyielded the soy beans.

In the Mountains, Taylor, Early Red, and Monetta, and in the Piedmont section, Groit, Black Unknown, and Early Red varieties have been the best seed producers, while Clay Monetta and Iron have produced most hay. The Red Ripper, Black, and Taylor have produced the largest quantity of seed, and Iron, Wonderful, and Monetta the most hay in the Coastal Plain section of the State.

RESULTS OF STUDIES WITH VARIETIES OF SMALL GRAINS

In the small-grain work varieties of oats, wheat, and rye have been grown and compared at the Experiment Station farm and at four of the branch station farms. Results of these tests have furnished a list of the varieties which do best in the different sections of the State.

All of the small grain at the Mountain farm was destroyed by the floods last season. At the Piedmont farm Purple Straw, Leap's Prolific, Fulcaster, and Fultz were the best yielders among the wheats, and were compared both for seed and hay yield. The Appler, Red Rust-Proof, and Fulghum varieties have shown up well at the Iredell farm in yield of both seed and hay. At the Experiment Station farm the Red Rust-Proof, Bancroft, and Appler for seed, and the Virginia Turf, Red Appler, and Fulghum for hay have produced most satisfactorily. At the Edgecombe farm the Fulghum, Red Appler, and Red Rust-Proof varieties of oats ranked best in the production of both seed and hay. Among the varieties of oats compared at the Granville farm, the Appler, Red Rust-Proof, and Fulghum produced the largest quantity of both seed and hay. At six of the branch stations Abruzzi rye was compared with the Common Winter rye secured from different sources. In all cases the Abruzzi rye has matured earlier and has yielded from two to six bushels of seed per acre or more than the common varieties of rye tested. The Abruzzi rye, too, has given decidedly earlier and more material for pasturage during the early spring.

ENCOURAGING SOY-BEAN GROWING AND UTILIZATION IN THE STATE

During the year the Division of Agronomy has devoted a great deal of attention to the encouragement of the more extensive growing of soy beans in the State than has been the case heretofore. As a result of these efforts, and the efforts of others working along the same lines in the State, there was an increase of at least 20 to 25 per cent in the acreage planted this year over last year's planting. From every part of the State information has come to us that farmers who had not previously grown this crop were greatly pleased with it; especially was this the case with those who took the proper precautions to put in the crop as it should be.

Thousands of letters of inquiry have come to us from all parts of the country with reference to the possibilities of soy-bean growing, how to put the crop in properly and how to most economically harvest it and handle it after maturity.

Several circulars have been prepared on the different phases of growing and handling the crop to supply the demands for information along these lines.

The soy bean is one of the very best summer-growing leguminous crops that may be used in this State for soil-improving purposes. The vines, pound

for pound, turned into the soil will add not only nitrogen, which was largely taken from the air, but a large amount of humus, that is an essential need of many of our North Carolina soils. It has been estimated that the value of the fertilizing constituents in a good crop of soy beans plowed into the soil in a green state would add to the soil fertilizing constituents that would cost more than $2.50 per ton, and as there will ordinarily be 6 to 10 tons of this material produced per acre where the crop is grown successfully, its tremendous value may be appreciated. In many cases the value of the organic material added will be of great direct as well as indirect value in making the conditions in the soil more favorable to the growing of crops.

SOY BEANS FOR LIVE STOCK

On every farm there is more or less work and other live stock for which farmers must provide feed. For grazing purposes, soy beans have great value, especially for hogs. As a hay crop, when properly fed, soy beans may be utilized to good advantage. The hay is a little coarse, but stock usually are very fond of it. It has about the same amount of protein that is contained in alfalfa hay. The beans are rich in food nutrients, and for this reason, when properly fed, they may be used to good advantage.

SOY BEANS FOR HUMAN FOOD

There is no question but that there will be a greater utilization of the seed of this crop, before or after crushing, for human consumption as the years go by and the acreage devoted to the crop is materially increased throughout the South. The beans, because of their high content of food nutrients and palatability when properly prepared, make a very nutritious and appetizing food product.

To some extent the beans are being used at the present time in the manufacture of high-grade pork-and-bean products, about one-half to three-fourths soy beans being used with one-half to one-fourth navy beans. We have had an opportunity to sample a brand of pork-and-bean mixture put up with tomato sauce in which the proportion of soy beans to navy beans was three to one. We say, without hesitancy, that these were of very good quality. There appears no good reason why the manufacture of pork-and-bean mixtures in which soy beans are used should not materially increase. The beans contain as much or more protein than navy beans, and are much cheaper. As a matter of fact, during the present year the price at which navy beans sold wholesale was two to three times as high per bushel as soy beans bought at the same time.

Soy-bean flour or meal, when properly prepared, may be used in the making of nutritious breads. Such breads are claimed, with much apparent truth, to be especially adapted for invalids suffering with certain diseases and for small children who have weak digestion.

CRUSHING THE BEANS BY COTTON OIL MILLS

Since the appearance of the cotton-boll weevil in Texas and its steady progress northward and northeastward throughout the cotton-growing section of the United States, it has been felt that other oleaginous seeds must be utilized by them to supplement cotton seed in order that they might supply our own needs for vegetable oils.

In casting about to determine what crops might seem most suitable for this purpose, it has been found that peanuts, soy beans, and possibly sunflower, might be used, as the seed of each of these crops contain good amounts of commercial oil. It might be of interest to know that neither velvet beans nor cowpeas can be utilized for this purpose, as seed of the former crop contain only about 6.6 per cent oil, and those of the latter will analyze on an average only about 1.7 per cent of oil.

Of the three crops mentioned as bearing seed containing a high content of oil, it appears that soy beans are to be largely depended upon by oil mills of the State and South. It is estimated that farmers will be able to get more profit per acre from a crop of soy beans than from a crop of cowpeas, and at the same time have a larger amount of material to turn back into the soil for its improvement. As a matter of fact, the peanut crop as handled at present is a soil-exhausting crop rather than a soil-improving crop, because in most cases the vines are removed, and in many instances they never find their way back, directly or indirectly, to the field on which the crop was grown.

It is estimated that on an average it would cost 75 to 100 per cent more to grow and harvest a crop of peanuts than a crop of soy beans. Soy beans also have a much wider soil and climatic adaptation than do peanuts, and in order for the oil mills to depend upon a crop, generally, it must be grown very widely throughout the whole cotton-growing area of the State and South. The soy bean is a crop that has such possibilities. Soy beans, too, can be milled at much less cost than either peanuts or cotton seed. From information available, it would appear that the crushing of soy beans at an oil mill properly equipped and operated need not exceed one-half to two-thirds of the cost of operating on cotton seed.

It is not believed that soy beans are to replace cotton seed at the oil mills, but, rather, will be used to supplement the cotton seed, and thereby prolong the short operating season of the mills. This is provided the oil mills are in a position to give the farmer a sufficiently satisfactory price for his beans to justify him selling to them. Of course, the price the oil mills will be able to pay for the seed will be governed largely by the price at which they will be able to dispose of their soy-bean oil and meal, and the efficiency with which the milling operations are conducted. On the other hand, if the mills are not able to offer the farmer sufficiently attractive prices for his beans to secure them, the farmer himself will be none the worse off for having produced the crop, as the crop itself may be used for soil-improving or for feeding purposes to good advantage.

It may be of interest to know that at this very time there are at least five cotton oil mills in the State that are crushing soy beans. There is no question but that to a large extent the crushing of beans by our oil mills has been one of the main factors in helping the farmers of the State in securing much larger prices for their beans than has been the case heretofore. Last spring, because of the interest in this crop, the price of beans ran up to $5 or more per bushel. Many of the beans were sold out of the State for planting purposes in areas where the crop had not been previously grown.

PRODUCTS SECURED IN CRUSHING AND HOW THEY ARE UTILIZED

From a ton of soy beans the oil mills are able to secure from 32 to 35 gallons of oil and about 1,650 pounds of meal. This leaves a loss from cleaning and evaporation of moisture in the milling operation of 120 pounds per ton.

The meal contains about 30 per cent more nitrogen than cotton-seed meal. The amounts of phosphoric acid and potash in the meal will usually range about 1.4 and 1.8 per cent, respectively. From the analyses there seems to be no logical reason why soy-bean meal should not sell for a somewhat higher price per ton than does average cotton-seed meal. It will probably be demonstrated also that the soy-bean meal will have a higher feeding value and will probably be found to have as wide or wider usefulness for feeding to different kinds of live stock than cotton-seed meal.

Soy-bean oil is at the present time being used quite extensively in the manufacture of soaps, paints, varnishes, enamels, japans, linoleums, oil cloth, and other water-proofing materials, asphaltums, salad oils, and other human foods. From all the facts at hand, it would seem that there is an assured market in this country for all the soy-bean meal and oil our mills can possibly produce.

Fig. 4. Soy-bean harvester at work.

Numbers of inquiries have been received from other States with reference to where soy-bean meal might be secured. Most of these have come from people who were feeding live stock of some kind or were interested in securing substitute materials for making breads for human consumption. To appreciate the importance of the oil at the present time, it is only necessary to call attention to the importation into this country during the year ending July 1, 1917, of about $20,000,000 worth from oriental ports, calculating the price of oil at the present selling price.

There seems to be no good reason, therefore, why North Carolina and other Southern farmers and cotton oil mill owners should not profit by an industry required to meet these pressing demands for meal and oil. Taking everything into consideration, it appears that in the soy bean, farmers, canners, packers, and oil mill owners have a most promising crop. It can be utilized in such a way by the farmers as to build up the fertility of his soil and at the same time add materially in revenue to finance his other farming operations.

OTHER EXTENSION ACTIVITIES

The Extension activities of the Division, other than those mentioned above in connection with farm-life schools, have been mainly in coöperation with county agents. The Extension Agronomist has, in addition to his work with county agents, participated in two community conferences, ten farmers' institutes, boys' and girls' club conventions, and judged at seven community fairs. He has, in all, made agricultural talks at 157 meetings and held 446 conferences with farmers. He has tested 1,117 samples of soil for acidity and traveled 7,800 miles by railway and 3,600 miles by automobile and team. He has worked for weekly periods with the county agents of twenty-two counties.

In addition to the above work, he spent during the past summer ten days in Ashe, Alleghany, and Watauga counties studying and encouraging the production of buckwheat in that section of the State.

Much attention has been given to the compilation of data on results obtained in field experiments and in coöperation with farmers on various agricultural subjects.

FIG. 5. Practical demonstration in selecting seed corn.

The following is the result of some of the work with county agents:

1. County agents and farmers have become much more interested in their soils and soil improvement and are better able to identify their type of soil and to test them for soil acidity.

2. County agents will hereafter be able, in the counties visited, to test the purity of limestone, shells, marl, and other forms of lime they may come across, and from these tests may let the farmers know the relative purity and comparative value of each, so that they will be in a better position to buy most intelligently.

3. Farmers have been brought into more intimate acquaintance with the kinds of corn grown in their community and will in the future be better able to select and test their seeds of different crops more intelligently and to buy and use fertilizers to much better advantage than heretofore.

4. Farmers will make a larger use of legumes and save organic matter to increase the nitrogen and humus supply of their soils.

FAIR WORK

The Chief of the Division has devoted considerable attention to work in encouraging the better organization of fairs, and in an effort to make the

premium lists offered for crops as well as the general agricultural exhibits at the State, district, county, and community fairs of greater educational value. It has been realized for some time that there is much that might be done in this direction in many of our fairs. It is gratifying to know that much progress has been made during the past few years in this direction. The managers of most of the fairs have shown that they are heartily in accord with any effort that may be made to improve the agricultural exhibits of the fairs.

The careful and intelligent selection and exhibiting of agricultural products of different kinds will have great educational value for the growers making the exhibits, and for those who may see and study the displays.

Under the splendid system of judging that has been established at most of the fairs, the following are some of the things that will be taught and impressed in reference to crops and soils:

1. The value of good seed of different crops selected by proper methods of seed selection.
2. The importance and value of growing the best yielding varieties of different crops.
3. The value of a proper classification and grading of farm products.
4. The value of leguminous crops in crop rotation for use in building up most economically the fertility of our North Carolina soils.
5. The necessity on the part of the farmer for providing growing crops with the right kind of cultivation and fertilization.
6. The importance of selecting crops best suited to the conditions and needs of different farmers in different localities, so that they may get the most out of the efforts they put into their farming operations.

In other words, the fair is an institution whose function should be chiefly educational in its nature, and it will be, when properly conceived and conducted, one of the most effective agencies for taking direct to the people from the farm in concrete form the latest and most important information pertaining to the different lines of agriculture.

PUBLICATIONS

During the year the following publications have been prepared and published on agronomy subjects:

1. How North Carolina Soil Survey is Being Used to Help the Farmers. Circular 32, N. C. Extension Service.
2. Improving Cotton in the Scotland Neck Community. Circular 37, N. C. Extension Service.
3. Farmers' Limestone, Shell, and Marl Grinding Plants. Circular 38, N. C. Extension Service.
4. The Growing of Wheat in Eastern North Carolina. Circular 53, N. C. Extension Service.
5. Soybean Harvesters. Circular 56, N. C. Extension Service.
6. Soy Beans as a Future Economic Factor in North Carolina. Circular 57, N. C. Extension Service.
7. Grow More Wheat. Poster Bulletin 6, N. C. Extension Service.
8. Grow More Oats for Hay. Poster Bulletin 8, N. C. Extension Service.

Before closing this report, I wish to express my deep gratitude to those associated with me in the Agronomy Work. Whatever may have been accomplished by the Division is due largely to the interest and fidelity to duty of those who are associated with me in the work.

Respectfully submitted, C. B. Williams,
Chief, Division of Agronomy.

REPORT OF ANIMAL INDUSTRY DIVISION

To the Director:

In response to your request, I am herewith handing you a report of the Extension work of the members of the Animal Industry Division for the year.

Swine

PIG CLUB WORK

Mr. Folk, who had charge of the Pig Club work, resigned January 1, and Mr. Moses of Alabama was placed in charge. Mr. Folk resigned to take charge of a large farm of his own in Louisiana.

During the year the enrollment has increased materially, and would have increased very much more than it did had we been able to secure a sufficient number of pure-bred pigs. The enrollment this year is 1,865 white boys and girls and approximately 300 colored boys and girls. The membership is found in 81 counties of the State, but the largest enrollment and the greatest amount of work is now being done in Guilford County, where Mr. Anderson, the County Agent, is devoting much of his time to the boys and girls.

The banks of the State have manifested very much interest in the movement. The National Bank of Granville at Oxford provided 72 registered pigs last year; the Wilmington Savings and Trust Company provided 35 in New Hanover County; the Citizens Bank of Elizabeth City provided 33 in Pasquotank County; the Merchants and Farmers Bank of Statesville provided 35 in Iredell County. Altogether, the banks of the State have invested between $6,000 and $7,500 in pigs furnished to members of the Pig Clubs. If additional pigs could have been found, much more money would have been invested by our banks. Out of the total membership of over 2,000, about 800 are growing pure-bred pigs. It is impossible to ascertain exactly how many meat hogs are grown this year, but certainly not under 600.

Two new projects have been inaugurated during the year, the object being to stimulate interest among the boys and girls to build smokehouses and in curing meat. Prizes are to be offered to the boy or girl building the best smokehouse in the State, and also to the boy or girl sending the best piece of cured meat to the contest which is to be in Raleigh in February.

Beef Cattle

Beef cattle work has been developing more rapidly this year than ever before. This is especially true with the Extension phases. We have, however, been very unfortunate in losing both Mr. Case and Mr. Jerdan, as both of these men volunteered and are now in military service. Mr. Jerdan is in training at Fort Oglethorpe and Mr. Case is with the Aviation Corps.

BEEF CATTLE EXTENSION WORK

As stated before, the beef cattle field work has been more satisfactory this year than ever before. This is largely due to the fact that a good foundation was laid the two years previous. Mr. Curtis and his assistants were somewhat discouraged for the first two years, but there is nothing now to be dis-

couraged about except the fact that two of the men have withdrawn for military work. When the beef cattle Extension work was first inaugurated it was very difficult indeed to get stockmen to pay more than $75, or a little more than beef prices, for a bull. They have now come to see that the best investment they can make is the purchase of a good bull, and it is nothing unusual for them to pay $150 to $300 for an animal to head the herd. Five sales of pure-bred cattle were held during the year. Two of these were held at the Live-Stock Meeting at Winston-Salem, one consisting of a Hereford sale of 20 animals, the other of a Shorthorn sale of 30 animals. On March 28, 1917, a sale of pure-bred Aberdeen-Angus cattle was held at Salisbury. This sale consisted of 20 animals. The next was a sale of pure-bred Shorthorn cattle held at West Jefferson, where 21 were sold. The last public auction during the year was held at Clyde on October 23, where 22 pure-bred Short-

Fig. 6. Demonstration in curing meat.

horns were disposed of. A sixth sale of 25 pure-bred Hereford cattle will be held in Salisbury on November 30. In addition to this, Mr. Case attended a sale at Bristol, Tennessee, and another at Knoxville, Tennessee, where he purchased 26 head of pure-bred Hereford and Shorthorn cattle for farmers in North Carolina. He also attended a sale at Atlanta, Georgia, and purchased four head of Herefords for North Carolina farmers. These sales all show that the State has never experienced as much interest in beef cattle as at the present time. In addition to this, a goodly number of individual animals have been purchased for farmers in the State. When the number of individual purchases are added to the number of animals bought at sales, 168, the total will exceed 200 pure-bred animals which have been brought into the State as direct results of the efforts of Messrs. Curtis, Case, and Jerdan.

For the first time the beef cattle Extension men have been asked to help build silos. During the summer and fall months they constructed 50 of these

buildings for various beef cattle farmers of the State, and could have assisted in many more if we had had sufficient help to meet the calls made upon us.

Approximately 5,000 different farmers have been visited and assisted in various ways during the year, and of this number we know that 1,124 received specific and detailed help.

A sale sheet has been sent out every few months listing the beef cattle for sale. In this way many farmers have been assisted in selling or buying animals.

SHEEP

SHEEP EXTENSION WORK

At the last meeting of the State Board of Agriculture an appropriation of $1,200 annually was made to assist in inaugurating some sheep Extension work and some additional sheep investigational work. Just before the meeting of the Board the authorities of the United States Department of Agriculture agreed to work with us in this project, they bearing half of the expenses. This work is under the direction of Mr. Curtis and Mr. George Evans, who was previous to July 1, 1917, Superintendent of the Animal Industry Farm, and was chosen for immediate charge of the sheep work. The Federal Department of Agriculture pays Mr. Evans' salary, and the State Department of Agriculture pays his traveling expenses. In addition to this, arrangements have been perfected to carry forward some practical sheep investigational work in Mitchell County similar to the way we have been conducting the practical beef cattle experimental work in conjunction with Mr. T. L. Gwyn. The sheep investigational work is being done jointly with Mr. S. T. Henry, and Mr. W. R. Bradford, a native of Mitchell County, lives on the farm and has charge of the sheep. Much good is sure to come from both of these lines of work, as we have had for some years persistent and continued inquiries for assistance of this kind.

In fact, we are, up to date, more than pleased with the progress of our sheep efforts. Mr. Evans has been busy in assisting the farmers in the various phases of sheep farming. His work has naturally divided itself into the following phases:

1. Purchasing rams and ewes for farmers.
2. Helping farmers in the feeding and management of the flocks.
3. Fitting sheep for the show ring.
4. Interesting farmers in coöperation in buying and selling sheep, lambs, and wool.

We have been somewhat surprised in the number of farmers who have wanted to buy and have bought breeding sheep. Up to October 1, Mr. Evans had placed 40 pure-bred breeding rams over the State. These consisted of Shropshire, Hampshire, and Dorset rams mainly. In addition to this, much interest has been developed in buying grade ewes by car-loads. While this matter has not been brought to a head yet, there is no doubt but that many farmers will buy rather large numbers of grade ewes to be placed in their breeding flocks.

At the August meeting of the county agents one whole day was given over to a sheep conference. All of the authorities were highly pleased with the interest developed at this conference. Heretofore no effort has been made to call the attention of the county agents to the place of sheep upon our farms, and, of course, only a few agents have given this phase of agriculture any

attention. This meeting, however, brought the importance of this industry to the attention of the county agents, and they have done much since going back home to arouse an interest in the business. In fact, the interest has been so great that Mr. Evans has been with and worked with at least half of the county agents since July 1. All of the agents, with the exception of perhaps two, have requested Mr. Evans' help, and he will get to them as time permits.

The sheep Extension work is, of course, new, and plans are being perfected, but the following additional statements show something of what Mr. Curtis and Mr. Evans expect to accomplish in the near future:

1. A survey of the State is being made to determine the number of sheep in each county at the present time, the amount they are taxed, and the number of dogs. This information is being gotten together for the purpose of developing a sane sentiment in favor of some essential dog law.

2. Plans are being perfected for the organization of lamb shipping associations. Arrangements have already been made, through the Philadelphia Wool and Textile Association, to market and sell our wool.

3. Information is being secured from county agents as to the number of farmers who keep sheep, the breeding, the manner of management, etc. This information must be gotten together before we know where the best licks are to be struck.

4. Up to date, the personal correspondence has been heavy, as during the three months of July, August, and September, 500 personal letters came to Mr. Curtis and Mr. Evans relative to the different phases of sheep production.

5. Special sheep meetings and conferences are being held in conjunction with county agents. So far, these meetings have been held in Anson, Union, Stanly, Haywood, Mitchell, Avery, Yancey, Alleghany, Ashe, Chatham, and Wake counties.

Dairy Cattle

dairy cattle field work

The dairy farmer has perhaps been embarrassed more than any other kind of farmer the last two or three years since the beginning of the world war. This is due to the fact that dairy products have not been advanced in price, especially butter-fat and butter, as much as have other farm products. Butter and butter-fat, during the last three years, have increased in value just about 50 per cent. Almost all other farm products have increased in value from 75 to 150 per cent. The feeds which the dairyman must buy have practically all increased in value 100 per cent or more. It is very easy to see, therefore, why the dairyman, especially one who produces butter and butter-fat, is discouraged with the outlook. This is more reason, however, why the authorities should redouble their efforts in assisting him. Mr. Reed and his dairy force have been unusually active during the year and have done much in holding the dairy business where it is, and much must be done the next twelve months if we are not to suffer real disaster as far as dairy interests are concerned. We must teach the dairyman how to produce his dairy products more cheaply than he has been doing in the past, and at the same time we must teach the public that the dairyman has not received a square deal as far as the increase in the price of his products is concerned.

The work of the dairy development is divided into several main projects:

(a) *Silos.* About two years ago we realized that it would be impossible for our small force of specialists to assist in building all the silos of the State. An effort was, therefore, made to shift the large part of this work to the county agents. At the present time, therefore, the county agents do the greater part of this silo-building work, and the efforts of the specialists are largely confined to training the agents in schools and as individuals. Year before last the silo-building school was held at Greensboro. The summer just past a second building school was held at Lincolnton and Charlotte. Mr. Arey had charge of this school and was assisted by Messrs. Noland, Cline, and Turner. Twenty-seven agents were present and various types of silos were erected. From this school the agents went back to their various counties and took charge of the silo-building work. Sometimes it is necessary, however, for some of the dairy field men to visit the county agents and assist them in this work. In counties where no agents are placed we will make an effort to conduct silo building as in the past. This summer 13 silos were built by our specialists in this way. Just how many were built by county agents has not been determined as yet.

(b) *Milk-House Construction.* Since my last report we have assisted in building 10 milk houses. Last year we assisted in building 6, and the year before 26; so it seems that our dairy farmers are recovering from the shock of the war and beginning the building of milk houses again.

(c) *Dairy Barns.* During the year, to our surprise, the dairy farmers have been active in building dairy barns, as we assisted in the erection of 21 barns since my last report. This is a greater number than was built the year before. This increase in barn construction, however, is due to the development in the cheese district, where some new barns are being built and several old ones being remodeled.

(d) *Spring Houses.* In the western part of the State the farmers have been active in building milk houses and remodeling cooling troughs. Messrs. Noland and Farnham have assisted in building 12 milk houses and 8 cooling troughs. This shows that the farmers in that part of the State are making rapid progress in the production of clean milk.

(e) *Miscellaneous Building.* During the year Mr. Farnham has assisted in putting in calf stanchions at two places. Washing vats have also been installed upon two farms, a steam sterilizer upon one farm, a water heater upon another, and four dehorning chutes in the neighborhood of Greensboro.

(f) *Creameries.* The development and growth of creameries and the creamery business have been rather disappointing. This, of course, has been due to the fact that butter and butter-fat have been selling at such low prices when compared with other foods and feeds. The business has been so unsatisfactory that our creameries are producing probably less than half as much butter as they were producing two or three years ago. No creameries have been built during the year, and there is no likelihood of any more building along this line being done until the war situation clears up. In fact, if all of those under operation now can live, it will be somewhat remarkable. Several of the creameries, however, are in better financial condition now than they were two years ago, as hard times are forcing them to inject better business management into their operations. The Experiment Station Creamery at Raleigh, which was established about three years ago, is one of those in better financial condition now than ever before. Our business, however, is smaller than it has ever been, but the quality of butter produced far surpasses

that produced two years ago. This is largely due to the fact that our patrons have learned to ship better cream. The Mooresville Creamery is also managed better than at any time in the past, as they are throwing much better management into their operations now and have a better buttermaker than in the past. In fact, we may say that all of the creameries which have been working under the direction of Mr. Clevenger are getting in better financial shape than ever before, and if the production of milk is not curtailed too much in the future, those managed in a business-like way will be able to live through the crisis.

As usual, several attempts have been made to organize creameries at points in the State where they could not possibly live. At Elkin a local salesman promoted a creamery among the business men, but after a conference with the Dairy Field Office the matter was dropped. The Chamber of Commerce at High Point attempted to organize a milk depot and creamery. The Chamber of Commerce at Maxton also started an agitation for a local creamery. At other points in the State the possibility of building creameries was discussed by local leaders; but when the men of the Dairy Field Office were called in for consultation they advised against the construction of any more creameries.

(g) *Cheese-Factory Development.* The interest and growth in the development of the cheese business in the western part of the State have been really remarkable. As you know, this work was inaugurated about three years ago. At that time the State of North Carolina was producing annually less than 30,000 pounds of cheese, and this small amount was not marketable. At the present time the output is about 1,000,000 pounds annually and the development is more rapid now than ever before: Although we have two men devoting all of their time to this work, Messrs. Farnham and Noland, still we are not able to meet the demands made upon us. Mr. Farnham up to January 1, 1917, carried on the work to the best of his ability, when Mr. Noland, a native of Haywood County, was appointed and began work January 15, 1917. At the present time cheese factories are located at the following points:

Cove Creek Coöperative Cheese Factory, Sugar Grove,
Grassy Creek Coöperative Cheese Factory, Grassy Creek,
Beaver Creek Cheese Factory, Beaver Creek,
Beaver Dam Coöperative Cheese Factory, Sweetwater,
Silverstone Coöperative Cheese Factory, Vilas,
Rich Mountain Coöperative Cheese Factory, Zionville,
Cane River Coöperative Cheese Factory, Bald Creek,
Twin Oak Coöperative Cheese Factory, Sparta,
New River Coöperative Cheese Factory, Crumpler,
Helton Coöperative Cheese Factory, Sturgills,
Brushy Fork Coöperative Cheese Factory, Vilas,
Mission Coöperative Cheese Factory, Valle Cruces,
Watauga Falls Coöperative Cheese Factory, Watauga Falls,
Southerland Coöperative Cheese Factory, Ashland,
Cool Springs Coöperative Cheese Factory, Hackett,
Democrat Coöperative Cheese Factory, Democrat,
Plumtree Coöperative Cheese Factory, Plumtree,
Crossnore Coöperative Cheese Factory, Crossnore,
Piney Creek Coöperative Cheese Factory, Piney Creek,
Bald Knob Coöperative Cheese Factory, Sparta,
Scottsville Coöperative Cheese Factory, Scottsville.

Only two really serious obstacles have been encountered in developing this industry. In the first place, it has always been difficult to find a sufficient number of good cheesemakers to take charge of the plants. Much of Mr.

Farnham's and Mr. Noland's time has been consumed in supervising the making of cheese in the factories. To relieve them of this kind of work, young men have been urged to go to the College here and take special courses in cheese production. Last year four young men took these courses, and are now in charge of factories. This year it is expected that twenty young men will avail themselves of this opportunity.

The second obstacle has been the difficulty in securing satisfactory boxes for shipping the cheeses. The fiber boxes secured were unsatisfactory. The customary cheese boxes can be secured from different manufacturers, but the freight to the stations in the mountains and the added expense of the wagon transportation make the cost of the boxes excessively high. Mr. Farnham has devoted no little time to developing methods of manufacturing cheese boxes right in the vicinity of the factories, but he is not satisfied with the product. It is imperative that this matter be satisfactorily solved, and it would be well to have a special appropriation to carry it through to a satisfactory conclusion, as the failure to get satisfactory boxes is really retarding the cheese industry.

That the western part of North Carolina is admirably suited to the production of cheese, your attention needs to be called only to the fact that the Cane River Cheese Factory in Yancey County, and the Democrat Cheese Factory in Buncombe County, are getting the highest prices quoted on dairy cheese in New York City. This, too, in competition with the cheese factories of America.

Up to a recent date all of these cheese factories were operating without a uniform system of record keeping, reports, or bookkeeping. Mr. Reed has recently worked out a set of reports for them to use, and these reports are being furnished the various factories. This is done to unify the manufacturing methods, and no doubt will have the desired result.

It is of interest here to call attention to a small way in which the Extension workers can be of assistance to farmers. All of our cheese factories have had difficulty in securing a tenth normal alkali solution for use in titrating. It is necessary for all of the factories to have this on hand. This material was costing them $3 a gallon laid down at their factories. Mr. Noland finally went to work on the matter and developed a satisfactory method for making a satisfactory solution, and the material for doing this work is now supplied all these factories at a cost to the factories of about 60 cents a gallon. The material is supplied by the Experiment Station Creamery.

(h) *Dairy Schools.* This year the first dairy school was held November 25, 1916, and the last one March 23, 1917. As I have stated before, these schools are held in conjunction with the country public schools, where the parents as well as the usual pupils are invited to attend. Most of the schools this year were only one day in length, this being due to the fact that the demands for schools far exceeded our resources. The public school teachers, county agents, and home demonstration agents assisted in this work in every possible way. In many instances the county superintendent of public instruction also attended. The pupils are handled in an orderly schoolroom fashion. Lantern lectures, common lectures, and demonstrations in testing, churning, and separating are given. At each place the windows are darkened and lectures given on breeds of cattle and other phases which require stereopticon views. This year 70 dairy schools were held with a total attendance of 4,844.

(i) *Cost of Milk Production.* In my last annual report I called your atten-

tion to the fact that a study was being made in the vicinity of Greensboro and Winston-Salem to determine the accurate cost of milk production and best methods employed. This work is being done in coöperation with Washington and with fifteen owners of dairy cattle. Mr. Combs has charge of the project. When this investigation was inaugurated it was expected that it would be concluded in one year, but it was found advisable to pursue it for another year. Now, however, it is brought to a close, and Mr. Combs is devoting his time to summarizing the results. Just as soon as he concludes this summary the results will be given to the public and can be used as a basis for Extension work for the dairy workers. This kind of information has been badly needed for a number of years, and we feel fortunate indeed in bringing this project to a successful close.

(j) *Boys' and Girls' Herd Record Contest.* At all times the dairy field workers do everything possible to induce farmers to keep dairy records. In July the last year a contest was inaugurated among the young people of the

Fig. 7. Showing type of cattle bought by Coats Jersey Cattle Club in Harnett County.

State, the object being to get them to enter a herd record contest. Forty-seven young people started the work and twenty-nine continued to the close. Mr. Arey was in charge of this contest. He visited the children regularly during the first three months, giving them assistance in testing and working out the records, but the county agents have also rendered valuable assistance. All kinds of dairy literature was placed in their hands from time to time, so it amounted really to a short course in dairying.

(k) *Bull Associations and Buying Dairy Cattle.* Mr. Arey of the Dairy Field Office has been particularly active in developing, organizing, and working with bull associations. He completed the organization of the Lincoln Jersey Breeders' Association at Reepsville during June. This association purchased seven Jersey bulls and eleven heifers. The Mooresville Jersey Breeders' Association and the Mecklenburg Jersey Breeders' Association have both been organized, and it is expected that Mr. Arey will purchase bulls for these associations about November 1.

Recently Mr. Reed made a trip and purchased for farmers 63 head of dairy cattle of various kinds. Twelve of the heifers were placed by the Bank of

Granville at Oxford, through the efforts of Mr. Mason, the object being to finally establish family cows for the people of that section. Many pure-bred bulls have been placed in Gaston County, largely through the efforts of Mr. J. M. Gray when he was agent in that county. Mr. Arey, on a recent trip in the county, learned that three of these bulls which were owned by various banks there and put out in the country for service, had sired 259 calves during the past year. During the year something like 51 dairy bulls have been purchased by members of the Dairy Field Office, 23 registered cows and 46 grade cows. In addition to all these, hundreds of native cows in Ashe, Alleghany, Watauga, Yancey, and other counties of the mountains have been purchased by people who are now producing cheese. All of this has been done under the general direction of Messrs. Noland and Farnham.

(l) *Experiment Station Creamery.* As stated before, the amount of cream received at our Experiment Station Creamery is less than that received a year ago. This is the common experience of all the creameries of the State. Notwithstanding this fact, however, our creamery is serving a good cause and helping to maintain and develop the dairy interests in the central part of the State. By strict economy we are able to make it self-supporting. Of course, our object in maintaining this creamery would not permit of building up a big establishment, because we do not hesitate to advise our patrons to sell their product upon other markets when they are benefited thereby. In fact, we put in considerable time in finding our patrons better markets than we afford them ourselves. During the year we have found thirteen of our patrons better markets than we could supply. Two are selling whole milk who were at one time shipping to us. Nine have dropped out of the business on account of the high prices of feeds and the lack of pastures. The following is a brief statement of the business done from July 1, 1916, to June 1, 1917:

Pounds of butter-fat received.....	16,060
Per cent of over-run.....	19.5
Cash paid to patrons.....$	5,073

We have been encouraged the last few months by the number of farmers in this territory who have expressed a desire to buy good dairy stock. Some of this stock, as reported above, has been placed, and Mr. Mason has verbal orders for four additional car-loads of cows, heifers, and bulls.

A system of grading cream was inaugurated June 1st, and we are living up to this grading strictly. This system should be introduced in all of the creameries of the State.

(m) *Official Testing.* If dairy herds are to become noted, the owners of the herds must have their cows officially tested. We are encouraging our farmers to own good dairy animals, but have them officially tested. This work is done under the direction of Mr. Reed, and very much interest is being developed within the last few months. If this interest is sustained, North Carolina will soon be noted, at least among the Southern States, for its high-producing cows.

During the year Messrs. H. P. Lutz, J. O. Lutz, Raymond Lutz, of Newton, Mr. J. F. Stephens of Greensboro, Reynolds' Farm of Winston-Salem, P. H. Hanes' Dairy of High Point, and Grover C. Greer of Grassy Creek, have all had official testing done.

Poultry

POULTRY CLUB WORK

The Poultry Club work, under the direction of Mr. Oliver, is making rapid strides. The enrollment this year is 1,852 white children and 693 colored children. The people in some of the counties have manifested very great interest in Poultry Club work. The counties where the greatest work has been done are Anson, Buncombe, Catawba, Iredell, Lee, Mecklenburg, New Hanover, Rutherford, Union, Wayne, Wilson, and Guilford. It is practically impossible—in fact, Mr. Oliver does not try—to do poultry club work without an active agent. The women agents, as well as the men agents, have—or many of them have—taken great interest in the children's work. In fact, in all of the counties mentioned above the agents have been unusually active. Mr. Oliver tries to do all of his work through or in conjunction with the

Fig. 8. A Poultry Club judging class.

county agents. He himself has been very active, as is shown by the number of meetings he has held. During the year he held 150 meetings with a total attendance of 12,514 people.

Last year, out of the total number of children enrolled, 465 sent definite reports of their experience to Mr. Oliver. These 465 children raised 11,192 birds, which were worth perhaps not under $6,000. If those who did not report did half as well as those who did, it is seen that the children connected with the Paultry Club work are producing no little amount of wealth for the State and assisting in spreading the educational features of the work over the State besides.

LETTERS WRITTEN AND NUMBER OF MEETINGS ATTENDED

This year the members of the Animal Industry force answered 22,781 personal letters from farmers and other people of this and other States. The

following summary gives a pretty close estimate of the number of meetings the members of this Division have attended and the number of people attending these meetings:

Office	*Farmers' Institutes*	*Dairy Schools*	*Other Meetings*	*Total Attendance*
Administrative	21	..	5	4,100
Beef Cattle	..	..	194	10,944
Pig Club	..	..	63	2,650
Dairy Experimentation	..	..	....	.....
Dairy Field	2	70	100	11,787
Poultry Club	..	..	150	12,514
Hostetler	12	..	....	2,000
Poultry Investigation	16	..	5	6,000
Total	51	70	517	49,895

The above statement does not include the number of people met by members of the Division in the two largest agricultural meetings of the State, namely, the Annual Live-Stock Meeting and the Farmers' Round-up Institute at Raleigh. At these two meetings several thousand farmers are met either personally or in a public way.

Respectfully submitted,

DAN T. GRAY,
Chief, Animal Industry Division.

FIG. 9. Typical farm dairy scene in North Carolina.

REPORT OF THE DIVISION OF ENTOMOLOGY

To the Director:

I submit herewith report on the Extension Work of the Division of Entomology for the year.

Orchard Visitation

The resignation of Mr. S. C. Clapp interrupted this work early in the year 1917; nevertheless during the year covered by this report 49 orchards located in 19 counties and containing 110,200 trees were visited, examined for insect pests, and the owners or managers advised as to pest control and other matters in which they would naturally be interested.

This project has been under way since February, 1907. During this time all of our leading orchard sections have been visited (most of them several times) and over a thousand orchards have been examined. It is felt that this has been a very important factor in bringing many fruit growers into the habit of spraying their orchards regularly and with good effect, whereas they would not have been effectually reached so quickly by any other means at our command.

ORCHARD SPRAYING DEMONSTRATIONS

During the year this project has been carried mainly by Mr. Szymoniak, Extension Demonstrator. Over a dozen previously advertised public demonstrations in orchard spraying have been given in coöperation with the county agents, thus giving all interested fruit growers within a wide radius the chance to witness the work and gain first-hand knowledge.

As with the orchard visitation project, this has now been carried by this Division for something like ten years, and has set the object-lesson example before many growers in many sections.

Bee-keeping Extension

This work is provided for by coöperative arrangement between the United States Bureau of Entomology and the State Extension Service, and assigned to this office. It was begun September, 1916, by the appointment of Mr. George H. Rea, formerly Chief Apiary Inspector of Pennsylvania. Owing to bereavement and consequent complications, Mr. Rea resigned in the spring of 1917 and returned to Pennsylvania, whereupon Mr. Charles L. Sams, an experienced bee-keeper of Madison County, was appointed, and has handled the project energetically since.

This is one field in which Entomology is directly productive, and not merely defensive, as it necessarily is in all our warfare against destructive species. I had advocated the beginning of bee-keeping work for several years before this project materialized, and the office was already in possession of much data upon which to begin operations.

Until this work was begun there was no unity of interests among the bee-keepers; few of them were acquainted with each other; each worked for himself, guided by such information as he could get from sources outside the State, and no one worked for all; there was no organization; there were no fixed standards. The object of this work has been to bring order, harmony, and consistency of methods into our bee-keeping industry.

The work met with immediate response and hearty support from our progressive bee-keepers, and the first really representative meeting of State bee-keepers ever convened met at Winston-Salem, N. C., on January 11, 1917, with about 150 bee-keepers in attendance, at which time the State Bee-keepers' Association was organized, adopting a constitution which avows "friendly and helpful relations with those forces which are working to better the bee-keeping industry," and also adopting a "Creed" which advocates the very principles of progressive bee-keeping which the Extension work teaches. This association is growing rapidly and gives every promise of a long and truly helpful existence.

Several local meetings of bee-keepers have been held, at which special instruction has been given, including such matters as winter packing, manipulations, feeding of bees, and grading of honey. Hundreds of bee-keepers have also been visited individually, and advised. The work is done in company with the county agents so far as this can be arranged, and well-informed bee-keepers are called upon to give their experiences on points which it is wished to emphasize.

OTHER WORK

It would not be fair to leave the impression that the projects here reported upon are the only ones which are handled from this office. There is a great deal of correspondence on the control of insect pests, and a mass of routine detail in connection with all these projects. Also there is the general pest control work at the Branch Stations, including the spraying of the orchards on these farms, and the preparation of reports, articles for the *Extension Farm News*, accounts, circular-letters, etc., also all the inspection, or "police" work in entomology, is handled by this office. But all these tasks are kept separate and apart from the definite projects of Extension here reported on.

Respectfully submitted,

FRANKLIN SHERMAN,
Chief In Entomology.

REPORT OF DIVISION OF HORTICULTURE

To the Director:

The various lines of Horticultural Demonstration work as formerly carried on through this Division have been greatly stimulated this year on account of the urgency of greatly increasing food production for war purposes. Through the daily press and by means of the *Extension Farm News* we have been urging the necessity of increased food production in all lines of Horticulture. Through demonstration men in the field, and through farmers' institutes, fairs, and other agencies, every means of encouraging the increased production and the careful storage of all food products have been used.

In the line of production, assistance and information have been given growers in pruning all kinds of fruit trees, but principally the peach and apple. A number of growers have been aided in the selection of orchard sites, in laying out orchards, in the selection of varieties, in the planting of orchards, and in the outlining of orchard operations.

"DEHORNING" PEACH TREES

Owing to the very severe weather last winter the peach crop was killed in bud in practically all the mountain counties of the State. This gave the opportunity of demonstrating the "dehorning" of peach trees to produce new fruiting wood for next season. Circular-letters were sent out to all growers urging the advisability and showing the nature of this work, and field men of the Division made a campaign along this line to put all cold-injured orchards in shape for fruiting next year.

HOME ORCHARD WORK

This year we have been giving a good deal of attention towards encouraging fruit production in sections of the State not engaged in commercial fruit growing. From orchard records which we have accumulated through years of observations, lists have been prepared of varieties of the different classes of fruit suitable for growing in the different sections of the State. Plans for acre orchards were prepared for the mountain, piedmont, and coast. These, with the lists of fruit recommended for each section, were blue-printed by the Farm Demonstration office and placed in the hands of their agents for pushing the work in the counties. Arrangements have been made with a nursery to supply one home orchard collection to every township at reduced rate, providing that its setting and care shall be under the supervision of the county agent. A good deal of interest has been shown in this work and many applications have come in for home orchard collections.

SWEET POTATO STORAGE-HOUSE CONSTRUCTION

As a result of the campaign for increased fruit production, the acreage of sweet potatoes planted this season was the largest in the history of the State. Owing to the long drought in October, the yield has not been as high as we could have wished.

Early in the fall a coöperative arrangement was made with the National Department of Agriculture, and two men were employed to demonstrate the

construction of sweet potato storage houses of similar design to that which has been found so successful for experimental purposes on the Pender Branch Station. By this campaign it is expected to reduce the annual loss from storing potatoes, which in most years amounts to almost 50 per cent of the crop harvested.

A model storage house was constructed at the State Fair and a man kept there during the fair to explain its construction and handling. One of the workers of this Division is now in the field making a circuit of the storage houses to instruct the growers how best to handle the houses during the storage period. Difficulty has been experienced in the work this year owing to the high cost of lumber and labor. However, there are now in operation, as a result of this campaign—

2	12 x 16 houses with capacity each	500 bushels
1	12 x 30 house with capacity	1,500 bushels
1	24 x 60 house with capacity	5,500 bushels

Besides these four new houses, 24 old buildings and storage houses have been remodeled and changed to suit the plan devised for use by the department. We already have a list of 45 men who have signified their intention of building next year, and several more who are going to build this season.

DRYING, EVAPORATION, AND DEHYDRATION OF FRUITS AND VEGETABLES

Considerable time was spent in securing information and investigating methods of drying, evaporating, and dehydrating fruits and vegetables. As a result, Extension Circular No. 50, entitled "Drying Fruits and Vegetables for Home Consumption," was published. The many requests for this circular showed the large amount of interest that has been taken in this method of food conservation. Demonstrations were given in the use of the different types of home dryers and in the handling of the dried product. Through the assistance of this Division, a dehydrator of commercial size was installed at the State Hospital. It is expected that dehydrators of commercial size will be installed in the trucking sections of the State. Very little drying, with the exception of sun-drying of apples, had been done in this State prior to this last season, but with the efficient methods and apparatus now at hand it should become of greater importance each year in the country's program of food thrift.

HOME GARDENS

A project for the production of more food by increasing the size, number, and efficient handling of home gardens was started during this last season. Information, advice, and assistance were given along this line through both the press and through personal service. Demonstrations in planning, planting, and judging home gardens were made. There were 100 to 200 per cent more home gardens this year than before.

On the two eastern branch experiment stations demonstration gardens were planted this year covering a wide range of vegetable crops. Close rotations were followed through the season to show the amount and variety of crops that could be grown and the large amount of food products that could be taken off a limited area of land.

EARLY AND LATE POTATO CROPS

In the Demonstration work of the Division this year special emphasis has been given to encouraging the production of Irish potatoes. A circular on potato culture was prepared which was used for the Boys' Potato Clubs and also used for general distribution to encourage potato growing. This work came in very timely, as the largest potato crop in the history of the State was harvested and most satisfactory prices were obtained. The planting of a fall crop of potatoes in Eastern Carolina was encouraging, but owing to very unfavorable weather this crop was not generally successful.

FAIR WORK

In the fall our Demonstration workers gave a good deal of time to judging exhibits at fairs throughout the State, showing the growers how to select the

Fig. 10. Grading and packing apples in Western North Carolina.

best materials for their displays and using the competitive exhibits to illustrate to the growers the types and varieties to produce.

At the time of the State Fair our experts were on hand to explain the Demonstration exhibits. A special feature was made of the section of a sweet potato storage house unit, a man being on hand during the fair to explain its construction and use.

HORTICULTURAL DEMONSTRATION WORK

Early in the fall Mr. Szymoniak, Demonstration Horticulturist, left this Department to take up work with the National Department of Agriculture. Since his leaving I have not been able to obtain from him a report of his Horticultural Demonstration work for this season.

Respectfully submitted, W. N. Hutt,

Chief, Division of Horticulture.

REPORT OF VETERINARY DIVISION

To the Director:

I beg to submit the following report of the work of the Veterinary Division of the Extension Service for the year ending June 30, 1917.

Abortion Disease. As during the previous year, the work has been largely confined to diseases of dairy cattle, with particular reference to "contagious abortion infection" (abortion disease). This term has been used for its inclusiveness, namely: including abortions, premature births, births of dead or weakling fetuses; inflammation of uterus (metritis) with or without apparent retention of the fetal membranes following parturition; many sterilities, both temporary and permanent; likewise the possibility of several other troubles as being due directly or indirectly to the same infection, such as certain cases of mammitis, of calf scours and calf pneumonia, and also the prevalence of the infection capable of being spread to others, but without showing outward signs of the infection themselves. Attempt has been made to give information concerning the wide extent of the infection, the recognition of the infection in the herd through laboratory examinations and clinical symptoms, or the results as indicated in above definition, and information concerning treatment and control of the infection and its results.

As a result of visits to dairies, we have found evidence of the infection in nearly every dairy herd in the State, as well as in many beef herds and private individual cows and similar infections in other classes of animals.

Owing to recently determined facts concerning the infections, owners have been advised of the inappropriate method of attempting to rid their herds of the infection by selling the known aborters. While many cases can be isolated by removing known aborters, many others do not abort and still others abort at such an early stage of development as to happen unobserved. Most of the cases of infection can be detected through the application of the agglutination or complement fixation tests of blood samples from suspected animals.

Manipulation of cystic ovaries and flushings of altered mucous membranes of the vagina and uterus will often overcome sterilities.

The raising of one's own herd and limiting the introduction of new cows into the herd seems to reduce the results of the infection to a minimum.

Influenza and Its Complications. For several years past a larger number of horses and mules have been dying as the result of secondary infections following shipping fever (influenza); consequently, we have been called in consultation several times by veterinarians and others where outbreaks were quite extensive.

Internal Parasitic Diseases. Internal parasites are very common in all classes of animals in the State, and seemingly the number of deaths and indirect losses are increasing yearly. We have been called in consultation by several veterinarians and demonstration agents to diagnose and recommend treatment and control measures for such diseases.

Farmers' Institutes. Twenty-one Farmers' Institutes were attended during the year, and live-stock subjects were discussed in the meetings by members of this Division.

Fairs and Live-Stock Meetings. Seven fairs and live-stock meetings were visited and assistance rendered in judging some of the classes of live stock.

News Articles. A number of news articles concerning hygienic and sanitary measures for control of infections and parasitic diseases were written.

Correspondence. A considerable amount of correspondence with farmers and Demonstration agents concerning various kinds of diseases of animals has been conducted.

Changes in Personnel. Dr. J. I. Handley, assistant in the Division, resigned January 1st to accept a position with the Veterinary Division of the Michigan Agricultural College.

Respectfully submitted,

G. A. Roberts,
Veterinarian.

REPORT OF DIVISION OF MARKETS AND RURAL ORGANIZATION

To the Director:

This report is for the year ending June 30, 1917, and covers the Extension work in the Division of Markets and Rural Organization, conducted jointly by the North Carolina Department of Agriculture and the North Carolina State College of Agriculture and Engineering, in coöperation with the United States Department of Agriculture under the agreements and plans entered into by these institutions for the conduct of all agricultural work of this kind in the State.

Investigation of Producers' Prices

The prices received by producers for strawberries, Irish potatoes, cotton, corn, peanuts, and soy beans have been investigated to determine the marketing conditions under the varying circumstances prevailing in different communities. These investigations show that the small-size farmer, whether he be a grower of strawberries or a producer of cotton, does not receive as much for his products as the farmers with larger crops. The large-size producer need not depend upon local markets. Dependence upon a local market makes a monopoly of that market and means generally lower prices, especially for the small-size producer. The large-size producer may be paid a higher discriminatory price on a local market to prevent his seeking an outside market, or to prevent farmers organizing, or to break up a farmers' organization when formed. The local market generally does not encourage grading farm products. To avoid any hard feeling from seeming to discriminate, local buyers are inclined to pay a flat price for produce. Such a practice is recognized by the trade as being responsible for farmers not grading their products as they should. If farmers do not know the grade of their products, or if they do not grade and pack them according to market requirements, they are in no position to sell advantageously in outside markets. This method on the part of buyers of not paying for food products strictly according to quality and grade is a discriminatory practice which is prohibited by section 5 of the Food Control Act, according to which all discriminatory practices of licensed middlemen are unlawful.

Early Irish potatoes sold this year at prices never heard of before, notwithstanding the unusually large crop, shipments amounting to 4,230 cars as compared with 2,760 cars in 1916. Many North Carolina growers averaged $8 per barrel for their crop. The Carolina Potato Exchange averaged $7.94 per barrel for all grades of potatoes shipped between June 1st and July 2d, or $8.03 per barrel for grade 1, $5.43 for field run, and $3.34 per barrel for culls. The average price obtained by growers in different parts of the State, according to special reports, was $6.83 per barrel for grade 1 and $4.68 for grade 2. The average price received for contract potatoes of all grades as reported was $4.68 per barrel, as compared with $6.79 per barrel for potatoes which were not contracted for. Potato growers in North Carolina lost nearly a million dollars through contracting ahead last spring. If growers would save enough this year to buy seed and fertilizer for cash, then they would be free to organize to sell on grade at the market price.

The New York market between May 30th and June 28th averaged, according to the market news service reports, $9.05 per barrel for grade 1 in 1917 and $4.11 in 1916, and $6.28 per barrel for grade 2 in 1917, and $2.62 per barrel in 1916.

This Division, in coöperation with the Virginia Division of Markets, is inaugurating a new policy this year in regard to the marketing of the peanut crop. Information is being gathered from all the peanut producing States concerning quality and yield of crop in order that the growers, in a conference to be held at Suffolk, Virginia, on November 20th, may have the necessary knowledge to determine what, under existing conditions, would be a fair price for this year's crop. Notwithstanding the increasing high cost of production, the price of peanuts remained practically the same during the years 1910 to 1916, inclusive. The average price of peanuts in North Carolina during the months that the farmer disposes of his crop, according to the Bureau of Crop Estimates, was 4.5 cents per pound in 1916, and 4.6 cents per pound for the period from 1916 to 1917, inclusive. The price rose to 7.26 cents a pound on an average during the months from May 15th to September 15th, inclusive, 1917. This would indicate that the farmers of this State received 2.76 cents a pound less than they would for last year's crop, or in the neighborhood of $4,226,731.99 less than they would had they been paid according to prices quoted in later months. The above figures are based upon the Bureau of Crop Estimates reports. But if the calculations are based upon special reports of producers' prices, the peanut growers would have received $4,904,232.22 more had they been able to sell their crop at the prices prevailing between May 15 and September 15, 1917. This is on the assumption that the 1916 peanut crop is the same size as that of the census year 1909. Beside prices, the Suffolk conference will consider costs of production, feasibility of establishing State grades for peanuts, and of forming an organization of peanut growers to meet yearly at Suffolk, and to serve such purposes as market conditions may demand.

Market Quotations

Daily Market News Service

A daily market wire service for early and late Irish potatoes, sweet potatoes, cantaloupes, watermelons, and apples has been maintained this year in coöperation with the Federal Bureau of Markets. Twenty-one thousand nine hundred and thirty-four bulletins have been mailed from the Elizabeth City office to early Irish potato growers and shippers, 21,100 bulletins from the Laurinburg office to cantaloupe and watermelon growers and shippers, 13,444 bulletins from the Elizabeth City office to sweet potato growers and shippers, and 8,210 bulletins from the Waynesville office to the growers and shippers of late Irish potatoes and apples. The newly established daily market news service operated at Waynesville by this Division in coöperation with the Federal Bureau of Markets is bringing for the first time news of general market conditions to the small growers of Irish potatoes and apples scattered through the mountains of Western North Carolina. Such reports are especially valuable in keeping small farmers informed as to the amount of shipments from competing producing sections, number of cars arriving on leading markets, and the prices paid each day on those markets. All of our price investigations show the necessity for such a wire service—that is, if production is to be encouraged.

THE WEEKLY PRICE REPORT

The Weekly Price Report now covers prices upon corn, oats, wheat, cowpeas, soy beans, Irish potatoes, sweet potatoes, cabbage, apples, butter, eggs, poultry, cheese, hogs, cotton, cotton seed and cotton-seed meal. Seventy-six thousand seven hundred and ten Weekly Price Reports were mailed out during the last year. In addition to keeping farmers and merchants informed of prices prevailing in markets in this and other States, the Weekly Price Report serves the special purpose of giving information to railroads which are interested in promoting immigration into this State.

A MONTHLY MARKET REVIEW

A monthly review of North Carolina markets will be published beginning November, 1917. These reviews will be based upon special reports of prices received by producers in different sections of the State. The purpose will be to obtain and distribute information of prices producers are receiving, the prices they are holding for, and to publish this and similar information from other States to the extent that they will coöperate in following a similar system of obtaining information from producers.

In the United States as a whole, market quotations have been obtained from buyers, and generally published by buyers. In Copenhagen butter prices have been published by producers. Manufacturers in the United States have found it to their interest to publish information of the prices at which they sell their products rather than to rely upon buyers. They have established special committees with a paid secretary to collect and distribute information from and to the membership. Even when such committees do not fix prices, their united action helps to crystallize sentiment in favor of maintaining prices.

All price investigations conducted in this State this year, as well as in previous years, show as wide differences in prices as those which have been published in the Weekly Price Report. To illustrate: seven counties report that producers are receiving on November 1st $1.20 per bushel for cotton seed, one county 70 cents, one 80 cents, and one 96 cents, and the average for the State, 27 counties reporting, is $1.07 per bushel. Some farmers in North Carolina are reported to be holding cotton seed for an average price of $1.33 per bushel. The discrepancy in corn prices in different sections of the State is still greater. According to special reports, corn on November 1st was selling in Iredell County at $1.15 a bushel, in Burke, Chatham, Henderson, and McDowell counties at $1.25 a bushel, and in thirty counties for an average price of $1.71 a bushel. Thus in many places farmers are selling much below the market price of Western corn delivered in this State, as shown by the Weekly Price Reports and letters just received. Later, in the spring, North Carolina corn will sell for as much or more than the price of Western corn delivered. No. 2 white Western corn would cost $2.29 to $2.32 put down in Raleigh, N. C., and more or less in other North Carolina towns according as the freight rate to these towns is more or less than 15 cents a bushel, the rate from Chicago to Raleigh. Undoubtedly, as soon as farmers begin selling there will be a slump in prices in every town in the State where a surplus of corn is produced. Merchants cannot sell much, if any, corn this fall. Therefore, what they buy will be bought at a discount, and there always will be some farmers who are forced to sell at some price, especially until they organize credit unions to take care of their temporary needs.

ORGANIZATION FOR MARKETING POTATOES AND APPLES.

This fall a small organization of growers of late Irish potatoes and apples was formed in Haywood County, and incorporated under the coöperative law of the State as the Mountain Growers' Exchange of Western North Carolina. As soon as the Exchange began to operate under the guidance of a manager furnished by this Division, the price of potatoes rose from 80 cents to $1 a bushel, and later, when the Exchange raised the price to $1.20 a bushel, local buyers raised their price accordingly. At the same time buyers in Hendersonville were only paying $1 a bushel. Thus the Exchange had the effect of raising the price of potatoes in the Waynesville section 50 cents a sack to both members and nonmembers. While the newly established market news service will help inform the small grower of market conditions, organization is necessary to enable him to profit by such knowledge. The Exchange has adopted the United States potato standards, and has graded and sold their potatoes according to this standard. The Exchange has secured two Government contracts. In fact, the demand from different markets at good prices has been much greater than the supply of potatoes.

The Carolina Potato Exchange had a successful season in spite of the bad condition of the crop. The manager, loaned by this Division, obtained exceedingly good prices for the members, considering the fact that late frosts and heavy rains at digging time made the crop of such poor quality that a large part of it was too small to grade. Because of the Exchange, nonmembers received much higher prices than they otherwise would have. Buyers made tempting offers to the members of the Exchange and paid such high prices for a poor grade of potatoes that it was with difficulty that any standard of grades was maintained at all.

A State grading law is needed to help the marketing exchanges and North Carolina growers generally. If we allow other States to get ahead of us in the adoption of the grading law recommended by the Federal Bureau of Markets, our growers are going to be at an increasing disadvantage in selling their less well graded stock in northern markets.

A whole bulletin could be written to show the discriminatory practices of buyers to break up organizations of producers. We have recommended to the United States Food Administration the adoption of the following regulations to govern country shippers in keeping with the Federal Food Control Act:

1. No farm products shall be bought at a flat rate. The price shall vary according to the grade. It shall be considered an "unjust" and "discriminatory" practice for any shipper to pay a farmer the same price for a poorly graded product as for one properly graded according to the standards accepted by the Food Administration. In the case of farm products in which the United States Department of Agriculture has worked out grades by Congressional enactment or at the request of the Food Administration, the price shall vary according to the scale of differences prevailing upon ten of the leading consuming markets in the United States for the week previous.
2. No shipper shall discriminate between individual farmers in the same locality or between farmers in different localities in the amount paid for the same grade of product at any given time: *Provided*, that differences only to the amount of differences in the rates of transportation shall be allowed.
3. No shipper shall pay a higher price than the market price either for the purpose, or with the effect, of crushing competition.
4. The ownership by shippers of any facilities for transportation which are used by competitors constitutes a discriminatory practice or privilege which is forbidden all licensees under the Food Control Act.

5. No shipper shall make any "unjust, unreasonable, discriminatory, and unfair" charge, commission, profit, or price.

6. Any shipper may authorize agents to sell upon commission. Agents so authorized shall not directly or indirectly buy upon their own account, nor shall any concern in which said agents have any interest buy such products: *Provided*, the shipper may authorize agents to buy such consignment at an agreed upon price. When so bought, the agent shall be allowed no commission.

The weakest part in the whole system of distribution is at the country shipping points, but the hardest to remedy because of the number of such points. Any food control act which does not effectively regulate the conditions under which farmers sell their produce cannot hope to materially increase production. The Food Control Act gives the greatest opportunity for the Government to lay down such conditions as shall make possible the development of permanent marketing machinery among farmers, such as shall increase prices to producers and correspondingly increase the production, lower the cost of distribution, and reduce the cost to consumers. The trucking capacity of this and other States could be greatly increased if a more stable market and fairer conditions of marketing could be assured, as outlined by the regulations proposed. A State grading law and a law to regulate and license all country shippers should be enacted if living conditions for farmers to organize are to prevail.

COTTON

The Edgecombe Cotton Exchange, organized in the fall of 1915, sold 900 bales of cotton for its members last year. This Exchange has been a very effective help in inducing buyers on the local markets to buy cotton according to the grades of our State graders. The excellent warehouse facilities and the grading office at Tarboro, which are both at the disposal of this organization, give it the necessary business equipment to do the very best work. However, the Exchange finds great difficulty in securing bids on cotton. It has not found the leading cotton buyers of the State willing to do business with the organization. This is a difficulty which the wheat farmers of the West had to meet and overcome in organizing farmers' elevator companies. This Exchange should be a model for farmers to follow at each cotton-market center in the State. Especially now when the export cotton business has been cut down and the domestic mill business is greatly increased, there is a supreme opportunity for the cotton farmers of this State to develop cotton-selling organizations along lines similar to the Edgecombe Cotton Exchange. The railroads are giving the necessary warehouse storage in transit privileges to make possible the concentration of sufficient cotton at one place and its classification in large enough even running lots, which should be of interest to North Carolina mills. When during the war economy in transportation must be realized, it should be easier to induce our mills to buy North Carolina cotton in so far as the right staple is available. A circular has been published to show the mills where cotton of different staples can be found, and an offer made to put mills in touch with growers and shippers of cotton and to furnish them samples. As a result some business with the mills has already been developed by the cotton grading offices.

Hogs

In the preliminary survey of hog raising, it has been found that many counties have sufficient hogs to ship in car-load lots to Richmond, Baltimore, and Jersey City markets, or to local packing houses. With relatively low local prices of pork, there has been little encouragement to increase its production. The services of a specialist in hog and grain marketing have been secured to begin work on December 1st. Shipping clubs will be organized wherever there are sufficient hogs or grain to ship in car-load lots. When North Carolina farmers realize that the world's markets are open to them, they will breed better hogs, and in the peanut section harden them, according to the methods advised by the Animal Husbandry Division, so that they may obtain the top of the market. Hog producers will be put in touch with growers having a surplus of corn.

Cotton Grading and Warehousing

The commissioners of eight counties this year made the necessary appropriation to secure the cotton grading service, which is being operated in cooperation with the Federal Bureau of Markets. Cotton this season has been graded in the grading offices located at Raleigh, Lumberton, Clinton, Wilson, and Tarboro for farmers and buyers in the eight counties as follows:

County	*Bales Graded for Farmers*	*Buyers*
Robeson	5,219	226
Bladen	1,011	94
Wake	764	148
Onslow	591	....
Wilson	1,816	162
Edgecombe	2,906	792
Pender	287	....
Sampson	1,884	1,020
Total	14,478	2,442

Last season, during the year ending June 30th, about 65,000 bales of cotton were graded for about 25,000 farmers in twenty-two counties. The samples from which the grades are determined are drawn by the ginner after the bale is ginned, and mailed to the nearest grading office. The grading service shows farmers that a large part of their cotton is above middling—on an average, one-third. With each grade certificate the farmer is mailed a statement of just how many points on or off middling his cotton grades, and how much this will amount to for the whole bale. From this the farmer who knows current quotations can figure the price of his cotton.

The grading service is increasingly commanding the support of cotton buyers. Two thousand four hundred and forty-two bales of cotton were graded for cotton buyers this year. Buyers, as well as farmers, are put in touch with cotton mills which may be interested in purchasing a particular grade and staple of cotton. In Sampson County much more cotton has been graded this year than last, in the main because the grading office has been located in the county. This has permitted the grader to come into closer contact with farmers, buyers, and ginners. This, especially, until farmers have been educated to the value of the grading service, seems to be the more desirable

method, and should be followed, as far as funds permit, until a law is secured which shall require all ginners to be bonded and paid for giving a responsible sample and weight of each bale ginned.

Last season about 10,000 bales of cotton were graded for twenty-five cotton mills, and this season 1,574 bales have been graded to date. The interest of the mills in sending in the samples is to learn whether the samples represent the cotton according to grades contracted for. In some cases our grades help in the settlement of disputes between the mills and cotton buyers. Our interest in grading mill cotton is (1) in determining to what extent mills obtain the grade of cotton they think they purchase, (2) to learn the price paid by mills for a given grade of cotton. The latter information will enable us to determine

FIG. 11. One of North Carolina's progressive Credit Unions.

the difference between producers' and consumers' prices for the same grade and upon the same date. This will give us data for a bulletin upon a subject which has not yet been covered.

We have coöperated with an expert furnished by the Federal Bureau of Markets in studying the warehouse needs of the State and in informing warehouse operators of the advantages of the United States Warehouse Act. With ample and well distributed licensed bonded warehouses storing cotton classed by licensed graders, farmers should be able as never before to save loss from exposure, obtain reasonable credit, and to organize to sell on grade when and where the best prices prevail.

ORGANIZATION AND SUPERVISION OF CREDIT UNIONS

During the last year seven new credit unions have been organized, making fifteen organized to date. The membership of the credit unions has increased

from 285 to 527, the depositors from 55 to 181, and the total resources from $7,471.42 to $19,515.65, the number of borrowers from 65 to 136, and the amount loaned from $5,773.73 to $14,518.14. The main results achieved by these new coöperative banking institutions are (1) encouragement of saving among young and old; (2) borrowing from banks at 5 per cent interest; (3) loans to members at 6 per cent, and (4) encouragement of coöperative cash purchases of supplies.

Junior Savings Clubs have been organized in connection with several of the credit unions. The superintendent of schools of Mecklenburg County has approved of the plan which we have worked out for collecting savings from the children through school teachers. This plan will be put in operation this fall in the school adjoining credit unions in several counties. It is frequently found that the older folks become interested in the credit unions through the interest of the children in saving.

The three credit unions for which we have data—Carmel, Lowe's Grove, and Drowning Creek—calculated that they saved altogether $2,209.66 by paying cash over what the supplies would have cost if bought on time. The approval of the Governor of North Carolina of farmers organizing credit unions and of their depositing their savings in credit unions or banks should encourage farmers to take hold of this work of gathering savings in their own coöperative banks and of developing coöperative credit in the country at low rates of interest.

LONG-TIME LOANS

Since the Federal Land Bank opened for business in February, 1917, this Division has forwarded applications for loans amounting to $2,820,901, or nearly half of the total loans applied for by North Carolina farmers. North Carolina ranks first in this land bank district in the amount of loans applied for, in the total loans approved, and in the amount of loans granted up to October 31, 1917, as indicated in the following report, just received from the Secretary:

	Total Loans Applied for	*Total Loans Approved*	*Total Loans Closed*
North Carolina	$ 6,132,419	$ 2,120,971	$ 284,615
South Carolina	5,320,787	1,413,718	271,065
Georgia	2,525,287	488,205	40,700
Florida	5,790,307	760,995	32,900
Total	$19,768,800	$ 4,783,889	$ 629,280

On October 31st loans amounting to $193,250,945 have been applied for to the twelve land banks in the United States. North Carolina ranks eleventh in the amount of loans applied for in the United States. The eleven States applying for the most loans under the Federal Farm Loan Act have applied for loans as follows: Texas, $19,167,223; California, $14,887,389; Montana, $9,660,919; North Dakota, $9,155,550; Washington, $9,044,889; Kansas, $7,347,477; Nebraska, $7,137,445; Colorado, $6,563,242; Mississippi, $6,352,977; Oregon, $6,340,778, and North Carolina, $6,132,419.

From the addresses given by the President Mr. F. J. H. von Engelken, and the Secretary, Mr. Howard C. Arnold, at the State Farmers' Convention, it was evident that not only the activities of this institution are bringing a large amount of new capital for the use of the farmers of this State, but also the methods according to which the loans are granted are so much in sympathy

with the purposes of the agricultural institutions of this State that this loan agency will be a most powerful factor in the development of the agriculture of this State. Loans are to be granted upon approved plans of farming at a low rate of interest, 5 per cent—not to speculators, but to farmers who farm their own land, not to landlords who do not operate their own farms, rather to the tenants who have some capital, the landowner to be encouraged to sell to the tenant and to take a second mortgage.

Undoubtedly, there is room for coöperation in this, as in other States, between this Division and the Land Bank to develop second and third mortgage facilities in order to encourage settlement and development of raw lands. In California scientific settlement of lands is being encouraged by this means. A just system of financing the settler, of helping him to organize with others in buying supplies, and in marketing crops, and of furnishing him expert agricultural advice to insure a profitable settlement of lands is to take the place of the old system of exploitation, failure, and arrested development.

PUBLICATIONS

During the last year new publications covering the work of this Division have been issued as follows:

Daily Market News Service Bulletins
Weekly Price Reports
One United States Department of Agriculture Bulletin, 476: A Study of Cotton Market Conditions with a view to their Improvement
One Extension Cotton Grading Circular
Two Extension Credit Union Circulars
Two Farmers' Market Bulletins

Respectfully submitted, WM. R. CAMP,
Chief, Division of Markets and Rural Organization.

November 10, 1917.

REPORT ON DRAINAGE

To the Director:

I herewith submit the annual report on the Drainage work for the fiscal year.

The work of drainage investigations in North Carolina has been conducted chiefly along the same general lines as in previous years. The work has become well established, and more tangible results are being obtained. The work is coöperative and the Division consists of two drainage engineers, F. R. Baker, assistant drainage engineer, of the North Carolina Extension Service, and H. M. Lynde, senior drainage engineer of the Office of Public Roads and Rural Engineering, United States Department of Agriculture. In general, the Extension part of the work of the Division consists of the following:

1. The making of the requisite preliminary surveys for the preparation of plans for tile drainage systems, sending the farmer a map of his farm showing the complete system of drains, the sizes of tile, estimate of cost, etc. When he is ready to install the tile, we usually arrange to visit him and spend such time as may be necessary in starting him off in the proper methods of construction. These are intended to be demonstrations, so far as possible, and the County Agent usually coöperates in bringing together interested farmers.

2. The location of terraces to prevent hillside erosion in representative sections of the State and instructions as to the proper methods of laying out and constructing terraces. As in the case of tile drainage, we usually make these demonstrations.

3. The making of preliminary examinations of drainage districts desiring to undertake drainage improvements, for the purpose of determining approximately the feasibility of drainage and the general plans to be followed.

(1) and (2) may be grouped under the heading "Farm Drainage." The following summary gives a fairly accurate idea of the number and area of farms visited by this Division.

FARM DRAINAGE

During the past year preliminary surveys, designs, and reports for tile drainage systems have been made on 27 farms in 18 counties, comprising a total area of about 1,200 acres. Portions of the systems designed have been installed on some of the farms. The location work on Cotton Valley Farm, Edgecombe County, was completed, and this farm now has a 200-acre field completely underdrained by tile ranging from 60 to 100 feet apart where needed, with random lines in other positions. All open ditches which were a continual care and expense are now done away with and better drainage is assured.

Preliminary examinations, surveys, designs, and reports were made on 4 farms in 4 counties, comprising a total area of about 1,300 acres, for open-ditch systems or the prevention of overflow.

Several farms have been visited for the purpose of giving assistance in the location and construction of terraces to prevent hillside erosion.

PRELIMINARY EXAMINATIONS AND RECONNAISSANCE

Three examinations of a preliminary or reconnaissance nature have been made and reports issued covering a total area of 18,500 acres. A reconnaissance survey was made of the land in the vicinity of Big and Little Alligator Swamps in northwestern Brunswick County.

Respectfully submitted,

H. M. LYNDE,
Senior Drainage Engineer.

REPORT ON FAIRS AND ASSISTANT TO DIRECTOR

To the Director:

I beg to submit herewith my report covering the activities of this part of your Administrative Office for the period of time between July 1st to December 1st, 1917. Previous to July 1st, I was attached to the Division of Club Work and Secondary Education in Agriculture, but at the beginning of the present Extension Service fiscal year I was transferred to your Administrative Office. My report, therefore, does not cover the activities of a complete calendar year.

In the time to which I refer, I have given my attention to the following definite lines of work, over which I have had direct supervision:

1. Third Annual Boys' and Girls' Short Course.
2. 1917 Season of State Fair Work.
3. First Annual School for Fair Judges.
4. Food and Feed Surveys.

In addition, I have assisted with the abnormally heavy duties of your office, occasioned by the war, the selective service draft, and the numerous propaganda carried on by many governmental, private, public, civilian, voluntary and quasi-official agencies arising out of the war. Because many of these activities are comparatively new, because some of them, due to the splendid coöperation of the personnel of our organization, are distinct achievements, and believing that the public in general and our agricultural constituency in particular are very much interested in these matters, I take pleasure in presenting my report in a detailed manner.

THE THIRD ANNUAL BOYS' AND GIRLS' SHORT COURSE

Held at West Raleigh, August 21st to 24th, the Third Annual Boys' and Girls' Short Course broke not only all State, but also all southern records for attendance. In 1915 the attendance had numbered 223. In 1916 the number of boys and girls had increased to 355. This year the attendance was 560, presumably a national record for such Extension Short Courses, and the grand total would have probably been larger if more club members could have been accommodated. The rooming facilities at the College were taxed to the very limit.

One of the striking features of this year's Short Course was the participation of 48 girls, members of the various live-stock, farm crops, and canning clubs. These girls not only established a successful precedent for future short courses, in so far as holding joint meetings for both boys and girls is concerned, but were also responsible for the introduction of a more refined and cultured atmosphere.

During the spring and summer months preceding the Short Course a very active correspondence had been conducted with club members. A great many articles were furnished to the press of the State, directly and through the *Extension Farm News*. County agents, Home Demonstration agents, bankers,

and many others in public walks of life were circularized, urging their influence in getting boys and girls to come. The railroads offered reduced rates. Many novel methods were suggested to and accepted by club members for earning their way to the Short Course, and, due to the splendid coöperation of one farm journal, more than 200 members came to West Raleigh August 21st.

On July 14th one entire issue of the *Extension Farm News* was prepared by this office and designated as the "Short Course Special." The material contained in this issue was largely used by the State press. There was also prepared and distributed Extension Circular No. 51, which contained a personnel of the lecturers and demonstrators, the official program of the Short Course, and directions, rules and regulations for those attending. This circular also proved to be a very helpful factor in advertising the Short Course over the State.

The Short Course was divided into three parts for each day. The mornings were devoted to lectures and recitations. The afternoons were featured by concrete demonstrations, experiments, and visitation to places of interest about the College, the Experiment Station, and the city of Raleigh. Moving pictures on agricultural, live-stock, health, industrial, and educational subjects were shown every evening.

Supervision of the Short Course was very materially augmented by employing four Farm-Life School teachers and four seniors from the College. These young men took charge of the companies and squads, maintained decorum and discipline, guided the club members to and from their classes, and proved to be a very necessary part of the Short Course. County and Home Demonstration agents, members of the Extension Service, Station and State Department of Agriculture staffs, the faculty of the College, and members of the Division of Club Work also gave splendid assistance. For the next Short Course it is very urgently recommended that at least fifteen assistants of the character of Farm-Life School teachers or College seniors be employed, especially if the attendance increases, as all present indications predict. The introduction of a semi-military system of organization, with the division of club members into regular companies and squads, would still be better.

As a means of attracting the attention of the young people to the possibilities of organized Community Agricultural Clubs, the Durham County Agricultural Club, with 50 members, gave a typical club meeting program during one of the evening sessions of the Short Course. It was designated as a "Model Agricultural Club Meeting." The rendition of this part of the program was enthusiastically received by the boys and girls, and undoubtedly will serve as a stimulus for many of the other clubs in the State. Too much credit cannot be paid to County Agent M. R. McGirt and Home Demonstration Agent Helen K. Simmons for the splendid manner in which this program was carried out.

Special mention should be made at this time of the assistance and coöperation given by President W. C. Riddick, Assistant Boys' Club Agent A. K. Robertson, W. C. Crosby, Secretary of the Bureau of Community Service, Sherwood Brockwell of the State Insurance Department, and the numerous commercial organizations that loaned us moving picture films, moving picture machines, and other mechanical contrivances, without which important parts of the Short Course could not have been successfully carried out.

It is interesting to report graphically and statistically this summary of the 1917 Short Course:

Chart 1. *Summary of 1917 Short Course*

Total attendance	560
Number of counties represented	65
Number of demonstrations given	10
Number of inspirational lectures	8
Number of supervisors	8
Number of days held	4
Number of girls attending	48
Number of places visited	10
Number of technical lectures	16
Number of lecturers and demonstrators	40

FIVE LEADING COUNTIES IN ATTENDANCE

1. Wake	50 members
2. Wilson	48 members
3. Stanly	32 members
4. Greene	27 members
5. Robeson	21 members

ENROLLMENT BY CLUBS

Number of Corn Club members	318
Number of Poultry Club members	54
Number of Canning Club members	26
Number of Bean Club members	1
Number of visitors—nonmembers	43
Number of Pig Club members	106
Number of Potato Club members	8
Number of Cotton Club members	2
Number of Peanut Club members	2
Total	560

Chart 2. *Showing Growth of Short Course in Three Years*

1915—223 Members

1916—355 Members

1917—560 Members

1917 Season of State Fair Work

This season's work will stand out as a distinct achievement. Beginning three years ago, the Fair Work has grown until it is now recognized as a definite project of such proportions as to demand the active assistance of the Experiment Station, Extension Service, State Department of Agriculture and the College staffs.

One of the most popular forms of Agricultural Extension Service, the Fair Work has enjoyed a remarkable growth during the past three years. From a total of 25 fairs in 1915 to a grand total of 207 fairs in 1917 represents a development which is almost unsurpassed in State records. Given the impetus by State Horticulturist W. N. Hutt, the work this year produced more than double the number of fairs held last year. Not only was the increase in the number of fairs a remarkable development in itself, but what was more valuable and more significant, the fact that the Extension Service coöperated with this large list of fairs, in furnishing judges, providing programs and speakers, and in demonstrating to the public the educational value of agricultural, live-stock, and home economics fairs.

Parenthetically, the information concerning the growth of the fairs in the State, as represented in the coöperative work in which this part of your office is engaged, is designated statistically as follows:

CHART 3. *Showing Growth of Fairs in Three Years*

	1915		1916		1917	
	Number Held	*Number Coöperating*	*Number Held*	*Number Coöperating*	*Number Held*	*Number Coöperating*
Community Fairs ...	2	2	53	22(?)	159	154
County Fairs	31	20	33	15(?)	33	33
District Fairs	4	2	8	4	8	8
State Fair	1	1	1	1	1	1
Negro Fairs	1	..	11	6(?)	12	11
Total	39	25	106	48	213	207

Under Mr. Hutt's direction, the matter of standardizing fairs and premiums had made very steady progress, and this year has marked with even more emphasis the very definite establishment of a State-wide fair system, to include negro, community, county, district fairs and the State Fair—all clearly defined as to their types and all working coöperatively with the Extension Service. The five types of fairs now recognized by your office are as follows:

1. Negro Fairs
2. Community Fairs
3. County Fairs
4. District Fairs
5. State Fair

The negro fairs may and do include all of the other types. A community fair is limited to the boundary of a neighborhood, a school district, a farm-wide community, or any other area of rural common interest. The county fair is representative of an entire county. Participation by several counties in a logical, geographical area creates a district fair. The State Fair is State-wide in its character. We have adhered to this classification during the past Fair season and will continue to do so during the 1918 season.

In a similar way the matter of premiums and prizes has been standardized in a definite way, so that the premium lists now used by fairs stand for an educational procedure in this type of work. Prepared by W. N. Hutt, Extension Circulars Nos. 44, 45, 46, and 47, under the captions "Premium List and Judges' Book for Community Fairs," "Premium List and Judges' Book for County Fairs," "Premium List and Judges' Book for District Fairs," and "Premium List and Judges' Book for the State Fair," were distributed by your office to the secretaries of fairs and to the public. Funds, provided by the Department of Agriculture, are no longer offered promiscuously to fair associations to be used in any way decided upon by fair secretaries. On the other hand, it is very encouraging to note that the fair lists issued by the secretaries are conforming very closely to the standardized premium lists suggested by this Service. We have discouraged the payment of large premiums for products that did not truly represent the individual or community

exhibiting the same. A standard value has been placed upon all farm crops, live stock, and home economics products, and the funds have been distributed as widely as possible, so as to encourage the largest number of competitors.

Based upon the number of fairs which have been held this year, the following table represents the appropriation by types, and the total appropriation which is due these fairs, if they meet all requirements. In 1915 $1,250.27 was distributed among the 25 fairs with which the Department of Agriculture cooperated. In 1916, including $168 paid to fair associations whose communities suffered from the disastrous flood of that year, the sum of $1,545.50 was distributed among 48 fairs coöperating with the Department of Agriculture. This year, at the time in which this report is being written, $9,061.75 represents the sum which is available to the 207 fairs.

Chart 4. *Showing Appropriation to Types of Fairs by Products*

STATE FAIR		DISTRICT FAIRS	
Crops	$ 198.50	Crops	$ 717.50
Vegetables	9.00	Fruits and Vegetables	92.00
Live stock	53.00	Live stock	302.50
Home Economics	50.25	Home Economics	60.00
Total	$ 310.75	Total	$1,172.00

COUNTY FAIRS		COMMUNITY FAIRS	
Crops	$2,635.00	Crops	$ 693.00
Fruits and Vegetables	437.00	Vegetables	462.00
Live stock	650.00	Live stock	1,617.00
Home Economics	165.00	Home Economics	308.00
Total	$3,887.00	Total	$3,080.00

NEGRO FAIRS		GRAND TOTAL	
Crops	$ 356.00	Crops	$4,600.00
Vegetables	57.00	Fruits and Vegetables	1,057.00
Live stock	165.00	Live stock	2,787.50
Home Economics	34.00	Home Economics	617.25
Total	$ 612.00	Grand total	$9,061.75

It is impossible at this early date to report the number of fairs that have met all requirements and to whom State warrants for premium money have been issued, because the greater number of fairs have not as yet turned in their receipts and have not made official reports. This process takes some time, and complete returns are usually not in until the end of the fiscal year.

So far as geographical distribution of fairs is concerned, the greatest number of fairs have been held in the Piedmont section, closely approximated in number by those in the Coastal Plain section, with the number held in the Mountain section coming last. October proved to be the most popular month for holding fairs, followed by November, with a few in September. The following table shows the location of the different types of fairs in the three geographical divisions of the State; also the distribution of the types of fairs over the Fair season of three months—September, October, and November:

CHART 5. *Showing Geographical and Seasonal Distribution of Fairs*

GEOGRAPHICAL DISTRIBUTION		SEASONAL DISTRIBUTION	
STATE FAIR		STATE FAIR	
Location: Piedmont		Season: October	
DISTRICT FAIRS		DISTRICT FAIRS	
Coastal Plain	4	September	0
Piedmont	3	October	6
Mountain	1	November	2
Total	8	Total	8
COUNTY FAIRS		COUNTY FAIRS	
Coastal Plain	14	September	4
Piedmont	12	October	23
Mountain	7	November	6
Total	33	Total	33
COMMUNITY FAIRS		COMMUNITY FAIRS	
Coastal Plain	58	September	20
Piedmont	69	October	107
Mountain	127	November	18
Total	154	Total	*145
NEGRO FAIRS		NEGRO FAIRS	
Coastal Plain	7	September	0
Piedmont	3	October	3
Mountain	1	November	8
Total	11	Total	11
GRAND TOTAL			
Coastal Plain	83	September	24
Piedmont	88	October	140
Mountain	36	November	34
Total	207	Total	*198

One of the most difficult problems confronting us in handling the Fair work this year has been the matter of providing judges for all coöperating fairs. When it is noted that there was a grand total of 207 fairs, and that they were held within the short space of three months, with 24 for September, 140 for October, and 34 for November, it will be realized that the task of securing, instructing, and routing adequate and competent judges for so many individual enterprises was a big undertaking. Community fairs need at least two judges each: one for the agricultural and live-stock products and the other for the home economics entries. A county fair needs three judges as a minimum: one for the agricultural products, another for the live stock, and a third for the pantry supplies. An average of four judges was provided for each district fair. The negro fairs secured their own judges, while the directors of the various departments of the State Fair attended to the matter of securing their judges. Based on these averages, our judges officiated 439 times, as the following table will show:

*Nine dates not reported and changed.

Chart 6. *Showing Number of Times Judges Officiated*

Type of Fair	*Number of Fairs*	*Number of Judges*
State Fair	1	..
District Fairs	8	32
County Fairs	33	99
Community Fairs	154	308
Negro Fairs	11	..
Grand total	207	439

The work of the judges, in judging, demonstrating, advising, lecturing, exhibiting, and making their work felt by the public, was the factor that made the Fair work an unqualified success this year. The fine support given this work by our various divisions has been of material value. In addition to the splendid assistance furnished by the members of the Farm Demonstration and Home Demonstration Divisions, which bore the brunt and the heaviest burdens of the work, the Animal Industry Division and the Division of Club Work of the Extension Service, and the departments of Animal Husbandry and Agronomy of the College gave very efficient and extremely necessary help, without which it would have been impossible to have met the situation.

The following table shows the divisions and departments which coöperated and the number of men and women furnished:

Chart 7. *Showing Number of Official Workers Used in Judging at Fairs*

Name of Division	*Number of Workers Furnished*
Administrative Office	1
Agronomy	2
Animal Industry	10
Boys' Club Work	3
Branch Stations	4
Farm Demonstration	40
Home Demonstration	35
Horticulture	2
Veterinary	1
Animal Husbandry College Department	2
A. and E. College students	18
Miscellaneous	1
Total	119

Outside of the regular traveling expenditures contracted by our divisions for workers engaged in field work, which come through the regular channels of Division appropriations and expenditures, the Home Demonstration agents who judged at fairs did so at an expense of $302.48. The total expense account of the county agents while working with and at fairs amounted to $291.97. In some instances, particularly with reference to the Home Demonstration agents, the fair associations took care of the expense accounts. Those members of the divisions who are regularly in the field visited fairs while engaged in their usual work, the expense of which is charged up to both fairs and individual projects. Considering the number of fairs, therefore, the gross expenditure of $594.45 for attendance upon fairs is comparatively low.

Too much credit cannot be given to the members of the Farm Demonstration and Home Demonstration Divisions for their part in the Fair work of this year. In a great many instances these workers initiated the Fair work in their communities. They spared neither time nor energy in canvassing communities, in organizing committees, in securing funds for their share of the premium lists, in publishing those lists, in getting up enthusiasm and community coöperation, and in reality making the fairs a success. They arranged the exhibits, they built the stands for the crops and the pens for the live stock, they arranged the programs and helped to secure speakers, and in most instances acted as the *ex-officio* leaders and heads of the enterprises. There was a great deal of good-natured rivalry and competition between several counties competing for the largest number of fairs, and the following table shows the leading counties in this respect:

CHART 8. *Showing Ten Leading Counties in Number of Fairs*

Name of County	*Number of Fairs*
Gaston	13
Mecklenburg	13
Anson	9
Catawba	7
Sampson	6
Stanly	5
McDowell	5
Lenoir	5
Burke	5
Madison	4

There have been a number of outstanding features connected with this year's Fair work which are worthy of mention:

1. Standardizing prizes and premiums.
2. Putting up educational exhibits of an agricultural and home economics character.
3. Encouraging exhibits of Boys' and Girls' Club work.
4. Introduction of many concrete demonstrations in canning, drying, preserving, treating cereals for diseases, etc.
5. Exhibiting charts and posters of the Food Administration office.
6. Encouraging greater food production and food conservation.
7. Production of a very close coöperative spirit between individuals in communities and among various communities themselves.
8. Organization and incorporation of fair associations.
9. An education for the agricultural population in selecting and handling farm products, as valuable for the market as for the fair.
10. Addresses and lectures.
11. Securing of names and addresses of interested farmers.
12. Tendency on the part of most fair managers to remove objectionable and immoral features from their shows.
13. Presumably the largest attendance at fairs in the history of the State.
14. The substitution of agricultural attractions for the usual shows.
15. The beginning of a State-wide Fair system to include community fairs county fairs, district fairs, and the State Fair.

The promotion of these features has undoubtedly been of great value to many communities. Replying to a questionnaire which I sent out some time ago, and the summary of which I cannot give at this time, because only one-third of the replies have been received, many secretaries are already reporting the permanent organization and incorporation of their fair associations.

While this is not a new thing so far as the larger fairs are concerned, it is a new departure for community fairs and one that will be productive of much good. One community in Catawba County reports that there is a movement on foot for the construction of a permanent Social Center Hall, the idea having originated out of the community fair. Another Community Fair Association reports that it has established a definite policy of turning over its receipts and its premium money to organizations like the Red Cross, Parents' and Teachers' League, and similar organizations.

There is presumably no one factor which can do more to stimulate effort in the improvement of farm conditions than the local agricultural fair. "It is there that the farmer has an opportunity of seeing and observing the progress made in the improvement of farm crops and animals, and of comparing his own efforts with the work of his neighbors." The local, community, agricultural fair is a factor in rural education. It exists for the purpose of improving the agriculture of its community. It undertakes to do this chiefly through a system of competitions, whose main features are exhibits of implements, machinery, superior animals and crops, the various products of the house and kitchen, and, more recently, the school.

The Community Fair means the resurrection of the local, one-day agricultural fair for North Carolina. Fairs of this type are highly educational and of great value to the communities in which they are staged. They are featured by "Weed Naming Contests," "Interschool Live-Stock Judging Contests," "Driving Contests," "Public Speaking Contests," and many other equally striking competitions.

As a supplement to the work of the Extension Service, a local agricultural fair does many things to improve the conditions of its community:

Chart 9. *Showing Value of Community Fair to Its Community*

1. Increase in production of crops and live stock.
2. Improvement of highways.
3. Consolidation of schools.
4. Improvement of homes.
5. Improvement of marketing methods.
6. Improvement of purchasing supplies.
7. Dissemination of general agricultural information.

The local community fair also represents great possibilities in its relation to the agricultural agencies of the State that are interested in the State's agricultural and industrial development. A local community fair offers the following possibilities for coöperative work:

Chart 10. *Showing Relation of Community Fair to Agricultural Development*

1. It gives the members of the Extension Service an opportunity to meet the farmers personally and to explain to them the work of the organization.
2. It gives the College, Experiment Station, Departmental and Extension Service staffs an opportunity to secure coöperators for demonstration work.
3. It gives the Extension Service an opportunity to conduct schools and short courses and to give demonstration work while the exhibition is in progress.
4. It gives the agricultural specialists of the State an opportunity to initiate any new movement for the improvement of farming.
5. It gives the fair managers an opportunity to coöperate with the agricultural forces of the State in acquiring an agricultural education.

6. It gives the local fair an opportunity for collecting in one place the results of field demonstrations for the inspection and instruction of the general public.

7. It provides a place for the exhibition of contest work by adults and school children.

Toward the latter part of the season three workers from the Office of Cereal Investigations, Washington, D. C., came into the State to do coöperative work in demonstrating to farmers methods of controlling and eradicating cereal diseases. These men found a good opportunity to make their work effective, by visiting community fairs, where representative gatherings of farmers were assured. These and other demonstrations are the beginning of a great many phases of visual instruction in agriculture, which will be promoted at fairs from now on. These demonstrations will include the packing of fruit, the testing of milk, the sanitary handling of milk, the dressing and handling of poultry for market, the mixing of sprays, butter-making, the judging and scoring of live stock, plowing matches, the conducting of cooking schools, canning demonstrations, etc.

We are urging every community to take all men and women residing in that community, over twenty-one years of age, into the membership of the local Fair Association. It should be "up to" the pride of the community to have as many members as possible in its Fair Association. We are urging that the policy and control of the fair should be vested in the hands of the majority of the members, and should be represented by a regular council with a president, secretary, etc. We have advised the appointment of many committees for each fair, such as the school committee, exhibit committee, program committee, premium list committee, grounds committee, etc. "Create a worker and kill a critic."

It is impossible at this time to give a definite report on the attendance at fairs this year. Reports which are now coming indicate that the attendance has surpassed all previous records. Small community fairs are reporting the attendance as being in the thousands, while county and district fairs are quoting figures for attendance in the tens of thousands. Based on the averages which we have at hand at the present time, the following table will represent the attendance at the various types of fairs and the number of competitors in the various agricultural, live-stock, and home economics departments of the fairs:

CHART 11. *Showing Estimated Attendance and Number of Competitors at Fairs—Season of 1917*

Type of Fair	*No. of Fairs*	*Average Attendance at each Fair*	*Estimated Total Attendance*	*Average No. of Competitors at each Fair*	*Estimated Total No. of Competitors*
State Fair	1	50,000	50,000	1,500	1,500
District	8	15,000	120,000	600	4,800
County	33	10,000	330,000	400	13,200
Community	154	1,000	154,000	150	23,100
Negro	11	2,000	22,000	250	2,750
Grand total ..	207		676,000		45,350

The Fair work of this season has undoubtedly brought a great deal of publicity to the Extension Service and to the State. We have contributed a large number of articles on the Fair work of this season not only to the State press,

but to the National press. We have had many inquiries concerning our work from many States, and even from Canada. On September 15th we prepared one entire issue of the *Extension Farm News*, designating it as the "Agricultural Fair Special." The material in this issue attracted a good deal of attention and comment, resulting in many inquiries from places outside of the State. The nationally prominent journal, *School and Society*, published in its July 28th issue an article that I had written, entitled "The Community Fair—A Factor in Rural Education." This article was quoted in a number of leading magazine reviews.

The outlook for next year is very optimistic. There are indications that a great many rural neighborhoods will have community fairs. We are working on a plan that will make it possible for these community fairs to precede the county fairs, so that there may be an opportunity for a selection of the best exhibits from these community fairs for representation at the county fairs. Our plans also include the reclassification and reorganization of the district fairs, to follow, if possible, chronologically, the county fairs and to precede the State Fair. We shall try to strengthen and reinforce the present Association of Fair Secretaries, putting this organization on a more solid basis. Interviews and correspondence with secretaries show the need of an organization of this kind.

The moral tone of the fairs has been greatly elevated this year. In cooperation with other State departments, our Fair Committee has been very alert in impressing upon the public and upon the managers of fairs the great need for putting fairs on a morally clean basis, and the response has been very encouraging. The disgracefully immoral and unchaste sideshows of the past are rapidly disappearing, and in their places are coming clean, refined, wholesome entertainments and exhibitions. This phase of the work we shall encourage more than ever during the next season.

Not only has the Fair work proved to be a popular type of Extension Service work, but it has also proved to be a real educational project. Needing the introduction of more coöperative spirit, and a better understanding of mutual problems, the farm neighborhood is coming to look upon the agricultural fair as the entering wedge for producing the things it lacks. Not only is the fair a technically educational process, but it is also a working factor from a social viewpoint. The production of economic goods is important; fairs assist in this. The marketing and distribution of goods are equally as important; a coöperative spirit produced by fairs helps to solve this problem. The improvement of farm life in general is on an equal basis with the other problems of country life; the fair sometimes assists materially in the happy solution of this question.

The First Annual School for Fair Judges

Feeling the need for giving county agents and other employees definite instruction in the art of judging farm products and live stock, the First Annual School for Fair Judges was held in August, during the annual meeting of the county agents. This idea was jointly suggested by W. N. Hutt, State Horticulturist, and C. R. Hudson, State Agent, and in coöperation with Mr. Hudson and the heads of divisions, we organized and carried out this Judges' School at the time mentioned. The problem of providing well-trained judges for fairs is getting more acute every year. As the fairs increase in number, it becomes more difficult than ever to secure properly trained and competent judges.

The program for this school was limited at this time to an elementary discussion of methods of judging farm crops, fruits and vegetables, live stock and poultry. During every afternoon of the county agents' meeting one-half of the afternoon was set aside for this work, and in each instance the head of the division, aided by assistants, gave the work in a demonstrational manner. The county agents in attendance expressed interest and enthusiasm in this work and showed their adaptability for it.

In addition to the training of competent judges, the innovation of this school will be responsible for the production of standard score cards and methods of judging for the various products shown at our fairs. This is important. A great part of the educational value of fair work lies in the ability of the judges to properly show the differences in farm and live-stock products and to assign reasons for those differences.

It is in this connection that we are preparing to write at once the following bulletins:

1. "Organization and Management of Fairs"
2. "Fairs and Their Educational Value"
3. "Hand-Book for Judges and Official Score Cards"
4. "A Composite Premium List for 1918 Fairs"

The publication and distribution of these bulletins would be of material assistance in organizing and standardizing our Fair work more than it is, and would serve the same purpose that the succeeding Judges' Schools have in view. Working with us, the departments of Animal Industry and Agronomy of the College have been instructing students in the art and practice of judging, giving us the opportunity of using these judges at our fairs.

FOOD AND FEED SURVEYS

This past year has been a crucial one from many viewpoints. Not only has this part of your office been charged with the responsibility of a great many inquiries arising out of the situation evolved by the War, but we have also been charged with the responsibility of assisting the Federal Department of Agriculture in the taking of agricultural surveys.

On August 31st two surveys were made of the food and feed situation in the State. One survey was very intensive in character and was limited to Moore County. The purpose of this survey was to determine the amount of retail stocks in the county, and was to be used by the Bureau of Markets, Washington, D. C., as a basis upon which to make estimates for larger territory. The second survey included the canvassing of 750 typical homes in typical sections of the State, and was made by County and Home Demonstration agents, in coöperation with C. R. Hudson, State Agent, and Mrs. Jane S. McKimmon, State Home Demonstration Agent. A preliminary report of this survey, sent to you earlier in the year, and reported to Washington, has drawn some very favorable comments from the Office of Extension Work South. This survey was twofold in character. The first part was to determine the actual amount of food on hand on a given date in 750 homes; the second part was to determine the amount of food consumed during the period of one week's time.

While the survey came at a time when our agents were heavily burdened with all kinds of work, and while this work was strange to many of them, and no money was provided with which to carry on the survey, the results obtained are commensurate with time and energy spent in gathering this information, and will undoubtedly be of service to us in making the survey,

of greater magnitude, in which we are engaged at the present time. In co-operation with State Agent C. R. Hudson and State Home Demonstration Agent Jane S. McKimmon, the following selection of territory was made in assigning various agents for this survey:

1. Three cities were selected with a population of 30,000 or more, and each city was to furnish 25 reports, making a total of 75 records to represent typical *urban* homes.

2. Fifteen counties were selected where Home Demonstration agents were stationed, and each agent was asked to make 25 reports of conditions in villages and small towns with a population of 10,000 or under, showing conditions in *urban*, or semi-urban and rural communities, making a total of 375 homes.

3. Twelve counties were selected where county agents were stationed, and each agent was asked to make 25 reports for homes in the typical *rural* districts, making a total of 300 homes.

Following is an outlnie of the survey:

Chart 12. *Showing Outline of Survey*

Cities (over 30,000)	*Number of Reports Made*	*Number of Assignments*
Wilmington	25	25
Charlotte	25	23
Raleigh	25	0
Total	75	48
Villages and Small Towns Under 10,000 in		
Halifax County	25	25
Guilford County	25	11
Buncombe County	25	24
Wilson County	25	11
Sampson County	25	13
Pitt County	25	25
Rowan County	25	25
Edgecombe County	25	21
Johnston County	25	23
Washington County	25	24
Madison County	25	24
Granville County	25	25
Anson County	25	25
Davidson County	25	25
Catawba County	25	0
Total	375	301
Rural Districts in		
Washington County	25	10
Wilson County	25	13
Guilford County	25	10
Pitt County	25	20
Anson County	25	25
Granville County	25	25
Rowan County	25	25
Edgecombe County	25	23
Sampson County	25	11
Buncombe County	25	14
Madison County	25	25
Catawba County	25	0
Total	300	201

A number of facts, of interest to us, were learned from this survey, summarized generally as follows:

1. The survey shows that as an average thing very little meat is consumed at the present time, and that such articles as corn and corn products, beans and bean products, milk, fruits, eggs, and poultry are taking the places of meat.

2. In almost no instances was any fresh meat purchased during the time the survey was made, while in almost every home was to be found a certain amount of cured and salted meat.

3. Even urban homes have proven the value of the campaign for canning and preserving, by showing in this survey a large amount of preserved and canned food, designated by the letters H. P., signifying "home produced."

4. The largest predominance of canned goods was to be found in the canned vegetables, including the common garden vegetables.

5. Very few homes showed an unusually large amount of food stored away on the day upon which the inventory of food supplies was made; in some instances sugar, molasses, corn products, lard, and wheat products being on hand in amounts of average quantity.

6. It was to be expected that rural homes would show neither the storage nor the consumption of miscellaneous articles, such as nuts, chocolate, cocoa, etc.; but it is interesting to note that the urban homes also failed to show either the storage or consumption of these commodities.

7. Agents have reported that, on the whole, people have been very glad to coöperate in making this survey and in keeping records.

8. Undoubtedly, the survey has proved to be a good thing for those who have been asked to keep the records, because it has brought certain things to light concerning which people have not thought about a great deal.

STATISTICAL REPORT OF THE OFFICE

From July 1st to December 31st the statistical summary of the work of the office is as follows:

Correspondence—Letters	1,500
Special Forms	500
Circular Material:	
First Selective Service Draft—6 issues	1,050
First Food Survey—2 issues	60
Fairs—13 issues	4,350
Second Selective Draft—7 issues	765
Miscellaneous—1 issue	75
Correspondence—Total	8,300
Number of meetings attended	23
Number of addresses given	9
Attendance at such meetings	1,360
Number of agents visited	42
Number of miles traveled	3,372
Number of news articles contributed	30
Number of circulars published	1
Number of magazine articles published	3

Very respectfully submitted, S. G. RUBINOW,
Assistant to Director and Chairman Fair Committee.

REPORT ON PUBLICATIONS

To the Director:

The work in the office of the Agricultural Editor has followed along lines previously outlined in which sending out information and publicity matter, giving the results of work of the Experiment Station and Extension Service has been given to the public. This regular routine was followed until the outbreak of the war with Germany, when every effort was made to put the entire Service before the people of the State. These efforts took the form of preparing posters for distribution over the entire rural section of the State, the extended preparation of multigraph matter for use by the press, the preparation of special articles for the Sunday papers, and the editing, printing, and distribution of timely Extension circulars. All of these were issued with a view to increasing food production of the State and conserving it after having been produced.

One special effort was made to find out from each county just what had been imported in the way of foodstuffs, to give this to the State as a whole, and then send the information to the agents in each county so they might see the great need for increased food production. This survey was made at a small cost and resulted in much valuable information being gained, which was finally turned over to the Division of Markets for further use.

During the fiscal year ending July 1, 1917, the office mailed out approximately 1,800 copies of the weekly news letter, *Extension Farm News*, to the press of the State and to a selected list of teachers, county men and women agents, and others in a position to be leaders in their communities. In making up this sheet consideration has been given to timely information and to making the material as attractive as possible from the standpoint of quality and make-up. Both the weeklies and the dailies have coöperated to a great extent in using this matter. A newspaper syndicate has also used it and has caused it to reach many readers of the small county publications. We have had many requests from private individuals to be put on the mailing list for this sheet, but the policy of sending it to those in a position to teach others has been strictly adhered to.

Each month the office has edited, multigraphed, and mailed the circular matter of the Extension Service, Department of Agriculture, and Experiment Station. Lately the county agents have also taken advantage of the facilities of this office and have sent in considerable matter to be multigraphed. This has added a great burden to an already crowded force, but, with additional equipment, has been handled with as much dispatch as possible. Selecting a month at random, during May we multigraphed 109 circulars with a total issue of 88,119 copies, of which number 70,609 were mailed from this office. This is in addition to mailing *Extension Farm News*, the bulletins and circulars, and answering daily requests for same. This is only an average month, but shows the work emanating from the office during the twelve months of the year.

The Bulletin of the Department of Agriculture has been edited and mailed out each month. A supplement has been issued three months in succession, showing the result of fertilizer analyses by the State Chemist. The list of names to which this bulletin is now mailed numbers about ten thousand.

Other regular printed publications sent out from the office are: The weekly

price report of the Division of Markets, which is being sent to a list of 680 names, and the monthly press bulletin of the office of Poultry Investigation, which is being sent to a list of about 3,800 names.

The Experiment Station has issued one bulletin (237—Tobacco Culture in North Carolina), which has a total of forty pages and 15,000 copies issued. Three technical bulletins with a combined issue of 16,000 copies and two circulars with a combined issue of 11,000 copies have also been printed and mailed out.

The annual Report of both the Experiment Station and Extension Service with an issue of 1,000 copies, each, have been printed and issued.

Thirty-eight Extension Circulars with a total of 480 pages and 206,650 copies have been printed and issued. These are as follows:

Extension Circular, No. 11. Canning and Preserving with 4-H Recipes
12. Pig Club Manual
13. The North Carolina Credit Union
14. Federal Farm Loan Act
15. Crimson Clover
16. Hairy Vetch
17. Grass Mixtures for North Carolina Pastures
18. Tobacco Curing Barns
19. The Southern Corn Bill Bug
20. Bur Clover for Improvement of Coastal Plain Soils
21. Rape for Hog Pasturage
22. Dehorning Cattle
23. From Wool to Cloth
24. How to Use Lime on the Farm
25. Score Card for Swine
26. Score Card for Beef Cattle
27. Score Card for Mutton Sheep
28. How to Secure Better Lawns in North Carolina
29. The Commercial Use of the Soy Bean
30. Storage of Sweet Potatoes
31. Score Card for Dairy Cows
32. How North Carolina Soil Survey is Being Used to Help the Farmers
33. Hog Houses and Equipment
34. Available Publications of the North Carolina Experiment Station, Extension Service, and State Department of Agriculture
35. Poultry Score Card
36. Where Good Seed of Recommended Varieties May be Obtained
37. Improving Cotton in the Scotland Neck Community
38. Farmers' Limestone, Shell and Marl Grinding Plants
39. How to Organize a Credit Union
40. Farm Management Record Book
41. Developing Credit in the Country
42. The Sow and Her Two Litters of Pigs
43. Home Garden Suggestions and Vegetable Seeding Calendar
44. Premium List and Judges' Book, Community Fairs
45. Premium List and Judges' Book, County Fairs
46. Premium List and Judges' Book, District Fairs
47. Premium List and Judges' Book, State Fair
48. Spraying Irish Potatoes

It has been the purpose in editing and distributing these Extension Circulars to make them in popular style so that they may be easily read and understood. Very simple style has been used because of the fact that many of them are used in some of the projects with the young peoples' clubs.

The total mailing list under the supervision of the office is now around 75,000 names. In keeping these lists live and up to date the time of one man is greatly occupied. It is the policy of the office, however, not to try to build up a large and permanent mailing list, but to so advertise each publication in season that it may be requested by interested parties and sent out as needed.

The Agricultural Editor has tried to keep in close touch with the work of every division by visiting each office at least once a week to obtain information in regard to any line of work being undertaken. Most of the material obtained has been gathered in this way, while a great amount of it has been sent in when requested by members of the different divisions. The coöperation given by each division has been gratifying, and has been the means of a greater diffusion of knowledge in regard to the work of the Agricultural force.

Only one trip was taken during the year, and this was made to a meeting of the Agricultural Editors of the United States at Cornell University in June. An exhibit was made here of the printed matter from North Carolina and attracted considerable favorable comment. The Editor was requested to make a talk in regard to the character of his work in North Carolina, and was thus able to give additional publicity to the various activities in which the several agricultural workers are engaged.

On the whole, the results of the work during the past year have been very gratifying and the coöperation of the press has been all that could be asked. Much yet remains to be done, however, before the reading public over the entire State has been fully reached. The office has been able to keep up with the great demands made on it only by installing the best and latest improved machinery for addressing envelopes, folding letters, and multigraphing circulars.

The matter of mailing letter-heads and envelope supplies to agents, and attending to all the printing of the different divisions, required considerable attention and time, but has been handled as expeditiously as possible; however, continuous experience with these matters has resulted in greater efficiency than when the work was first inaugurated.

Respectfully submitted,

F. H. Jeter,
Agricultural Editor.

FINANCIAL REPORT

THE NORTH CAROLINA AGRICULTURAL EXTENSION SERVICE IN ACCOUNT WITH THE UNITED STATES APPROPRIATIONS UNDER SMITH-LEVER ACT, 1916-1917

	Smith-Lever Funds	
	Federal	State
DR.		
To receipts from the Treasurer of the United States and from State sources as per appropriations for fiscal year ended June 30, 1917, under act of Congress approved May 8, 1914 (Smith-Lever Act)	$ 52,079.86	$ 42,079.86
CR.		
By Salaries	$ 38,614.84	$ 29,723.16
Labor	795.71	397.83
Printing and distribution of publications	2,354.00	2,353.50
Stationery and small printing	1,528.61	1,081.79
Postage, telegraph, telephone, freight and express	813.74	1,096.70
Heat, light, water, and power	6.86	5.30
Supplies	540.59	883.83
Library	65.07	75.92
Tools, machinery, and appliances	77.43	243.97
Furniture and fixtures	697.35	669.20
Scientific apparatus and specimens	121.36	52.50
Traveling expenses	6,464.30	5,409.16
Contingent expenses		87.00
Totals	52,079.86	42,079.86

We, the undersigned auditors of the corporation, do hereby certify that we have examined the books and accounts of the Extension Division for the fiscal year ended June 30, 1917; that we have found the same well kept and properly classified; that the receipts for the year from the Treasurer of the United States were $52,079.86 under the act of Congress of May 8, 1914, and the corresponding disbursements $52,079.86, leaving a balance of nothing; that there have been expended as an offset to the Federal Smith-Lever funds $42,079.86 State funds, for all of which proper vouchers are on file and have been by us examined and found correct.

And we further certify that the expenditures have been solely for the purposes set forth in the act of Congress approved May 8, 1914, and in accordance with the terms of said act.

(signed) W. H. RAGAN,
W. E. DANIEL,
T. T. THORNE,
Auditors.

(Seal.)
Attest: A. F. BOWEN, *Custodian.*

Examined and approved as correct.

B. W. KILGORE,
Director of Extension.
B. R. LACY,
State Treasurer.

SUMMARY STATEMENT OF EXPENDITURES BY PROJECTS, SHOWING CLASSIFI
PARTMENT OF AGRICULTURE,

Items of Expense	Total	Administration	Printing and Distribution of Publications	Farm Demonstration	Home Economics	Agronomy Extension
Salaries	$163,338.00	$5,954.15	$	$79,184.80	$55,841.78	$4,199.00
Labor	1,193.54	39.50		15.10	12.36	76.98
Printing and distribution of publications	4,707.50		4,707.50			
Stationery and small printing	2,610.40	872.51		462.66	118.41	168.45
Postage, telegraph, telephone, freight, and express	1,910.44	442.80		86.29	206.25	233.82
Heat, light, water and power	12.16	5.40			3.00	.26
Supplies	1,424.42	21.22		1.95	210.37	305.00
Library	140.99	36.55			3.35	22.27
Tools, machinery and appliances	321.40	2.50			7.53	49.53
Furniture and fixtures	1,366.55	406.03		142.65	10.95	60.35
Scientific apparatus and specimens	173.86					61.36
Traveling expenses	11,873.46	400.87		258.50	2,193.15	1,041.13
Contingent expenses	87.00			87.00		
Totals	189,159.72	8,181.53	4,707.50	80,238.95	58,607.17	6,218.15

CATION OF EXPENDITURES FROM ALL FUNDS, EXCEPT THOSE FROM THE DE-USED FOR EXTENSION WORK.

Boys' Club Work	Animal Diseases	Bee-Keeping	Beef, Cattle, Sheep and Swine	Cotton Grading and Marketing	Dairy Extension	Drainage Extension	Fruit and Truck Demonstration	Negro Boys' Clubs	Rural Communities
$3,838.34	$225.00	$ 50.00	$2,250.00	$3,367.25	$3,412.70	$1,499.98	$1,500.00	$1,215.00	$ 800.00
285.26	42.75	95.88	64.34	21.60	418.77	1.00	----------	120.00	----------
429.04	3.75	5.10	158.20	77.50	282.58	17.70	----------	14.50	----------
151.18	.25	----------	332.28	5.50	303.10	148.97	----------	----------	----------
1.20	----------	----------	----------	----------	2.30	----------	----------	----------	----------
255.88	----------	----------	223.23	9.45	349.84	19.70	15.78	12.00	----------
32.28	----------	4.25	11.00	----------	31.29	----------	----------	----------	----------
1.64	----------	----------	53.96	----------	167.57	13.50	14.90	10.25	----------
209.67	----------	44.30	77.00	----------	291.10	124.50	----------	----------	----------
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2,639.20	227.16	347.38	1,301.47	58.73	2,365.19	257.55	349.48	433.65	----------
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7,843.69	498.91	546.91	4,471.48	3,540.03	7,736.94	2,082.90	1,880.16	1,805.40	800.00